NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. **Boston, January, 1871.** VOL. V.---NO. 1.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. **MONTHLY.** SIMON BROWN, S. FLETCHER, } EDITORS.

THOUGHTS SUGGESTED BY THE INCOMING YEAR.

Gently as the lilies shed their leaves,
When summer days are fair,
The feathery snow comes floating down,
Like blossoms on the air;
And o'er the world like angel's wing
Unfolding soft and white,
It broods above the brown sere earth,
And fills with forms of light
The dead and desolate domain,
Where Winter holds his iron reign.

JANUARY, 1871! All hail, though thou comest in wintry drapery, in short, dark days, in drifting snows and threatening clouds! Welcome, welcome, art thou to our New England Homes and Hearth-stones. Thy coming has been anticipated, and well-stored cellars and larders, barns and granaries, and curling smokes from thousands of chimneys, all prove that the New England farmer "takes Time by the forelock" and is a provident man.

Cheered by the bountiful harvests of the past, and the new aids coming to alleviate his labor, which science and art are constantly presenting, he will enter upon this new division and starting point in Time, with fresh determinations to improve both the soil and the mind in a greater degree than ever before. He will make the very name of *January*—meaning two-faced, "looking before and after,"—indicate the reflective propensities which she encourages, and which, when duly exercised, cannot fail to lead to good.

Every first of January that we arrive at, says an amiable writer, is an imaginary milestone on the turnpike track of human life; at once a resting-place for thought and meditation, and a starting point for fresh exertion in the performance of our journey. The man who does not at least *propose to himself* to be better this year than he was last, must be either very good or very bad indeed! And only to *propose* to be better, is something; if nothing else, it is an acknowledgment of our *need* to be so,—which is the first step towards amendment. But, in fact, to propose to oneself to do well, is in some sort to do well, positively; for there is no such thing as a stationary point in human endeavors; he who is not worse to-day than he was yesterday, is better; and he who is not better, is worse.

This will apply not only to moral duties, but to all the practical duties of life; to every action, every act and effort of life.

What a happy influence does *January* exercise on all the rest of the Year, by the famil-

meetings she brings about, and by the kindling and renewing of the social affections that grow out of, and are chiefly dependent on these. And what sweet remembrances and associations does she not scatter before her, through all the time to come, by her gifts—the "new-year's gifts." Offerings of the affections to the affections—of the heart to the heart.

How happy ought we to be in the liberty of speech, action and conscience, and the free pursuit of happiness! In the exemption from cruel wars which, in other lands, are devastating some of the fairest portions of the earth, crushing the efforts of genius, destroying the finest works of art, breaking up homes of the aged, sick, and defenceless, and casting them upon the pitiless world. The beautiful villas which so lately adorned the fields of sunny France, have become the charnel-houses of the slain, and echo only the groans of the dying or the wails of mourners who go about the streets. When will men

"—— hang the trumpet in the hall
And study war no more?"

In the light of *progressive science*, too, how much there is to encourage the farmer in his healthful and enviable position. The possession of truth will confer happiness, not the possession of mutable and perishing things. A more accurate knowledge of the elements with which he must deal, and of their operation upon the materials which he is constantly handling, and which are indispensable to life itself, are of infinitely more importance than to amass property beyond a competence to secure the necessary comforts of life. "Many a man contracts his spirits upon the enlargement of his fortune, and is the more empty for being full."

As the farmer labors for future harvests in his physical endeavors, so should he labor for that future harvest of transcendent purity and truth, which will bring permanent peace and joy. In this view, let us introduce to him what the celebrated and good Dr. Dick says in regard to the little understood and much-abused word, *Science*:—

"Science is nothing else," he says, than an investigation of the divine perfections and operations as displayed in the economy of the universe; and we have every ground to conclude, both from reason and revelation, that such investigations will be carried forward on a more enlarged scale, in the future world, where the intellectual powers, freed from the obstructions which now impede their operations will become more vigorous and expansive, and a more extensive scene of divine operation be presented to the view."

No other avocation affords more favorable opportunities for the mingling of labor and study, than that of the farmer. Some affect to think that labor of the hands is incompatible with labor of the head. Undoubtedly it is, if in an inordinate degree. The powers of body and mind must preserve a proper balance. The truth in relation to this lies in the pithy remark of Sir John Ruskin, who said that "it is only by labor that thought can be made healthy, and only by thought that labor can be made happy."

The position of the farmer is comparatively an isolated one. Not many can own farms in or near villages. They must, therefore, form associations of one kind or another, which will call them together. Here the interests of their own calling, or the moving events of the day may be discussed, after the interchange of friendly congratulations. Under our congenial laws, it is their privilege to discuss the propriety of repealing revenue bills, or the annexation of San Domingo to our *little* domain; and it is their voice which will greatly affect the decision upon them in Congress. It is a duty to be enlightened upon, and interested in the affairs of the Republic.

In his retirement at St. Helena, Bonaparte uttered many truths; one of them was, that "The only true way of appreciating and gaining a thorough knowledge of mankind, is by trying, and associating with them."

And now, kind reader, as we welcome in the New Year, we gladly tender you sincere acknowledgments for your good company, your valuable contributions in promoting the successes and amenities of rural life, and your friendly counsel and support. No special change is contemplated in the course which the NEW ENGLAND FARMER has so long and so steadily pursued. If any improvements can be suggested to increase its value, the liberal support of its patrons will justify their adoption at once. Its columns will bear a fair and inviting impress, while they are conservative, but progressive, as new light dawns upon the great agricultural art.

—Hog cholera is causing the farmers great losses in the vicinity of Springfield, Ill. One farmer on Lick creek has lost seventy-nine hogs from this disease within a few days, and other losses are reported.

For the New England Farmer.

THE GARDEN IN JANUARY.

Again are we permitted to greet the ever attentive readers of the NEW ENGLAND FARMER'S Garden Calendar with a "Happy New Year." Although the past summer was one of extreme heat, and in some sections, of drought, yet the good gardener received abundant reward for all his labor. Like all others, the past season has its lessons. What lessons, you ask? Have your eyes been shut, that you have not been able to draw any lesson from your experience in the garden? Have you not received a lesson on the economy, in a domestic point of view, of a good garden? A kind Providence has bestowed upon you health of body and peace of mind, the greatest blessings we are permitted to enjoy here below. Did you ever think what a prominent part the culture of and the supply from the garden had in bringing these about? Let us then look over the experiences of the past season and profit from their teachings. If we have had a good garden, with a fair supply of fresh vegetables, let us not be satisfied short of a *very good* garden and an *abundant* supply of all it has heretofore produced, with the addition of some other choice and desirable product.

Having always been accustomed to farm life, I am well aware of the too general feeling of farmers in relation to the care of a garden. They highly enjoy the products of a good garden, but there is too much of the feeling that its care is "knitting-work business." The comparison is not bad, for a large share of the work in a garden can be done—like woman's knitting—at odd spells; it can be taken up and laid down as circumstances require. Now we know that after having been in the field and tired ourselves with its heavy work, or before going to a hard day's work, we are reluctant to occupy any spare time, which we desire for rest, in doing any kind of labor, however light. But should all the labor for the garden be thus filched from that of the field? If the garden claims a fixed portion of the territory of the farm, may it not also claim a fixed portion of its labor? Admitting that on the farm we work for profit, the question arises, what is profit? A penny saved is two pence earned, says the proverb; and we all know that it is rather what we save than what we earn that constitutes wealth. On this principle, I urge farmers to cultivate a garden. Its productions relieve us largely from dependence on the market or field; it saves us from eating too freely of meat or flesh, at a season when other food is more conducive to health, and meat is less required to sustain strength and animal heat.

Not only should every farmer have a vegetable garden, but there should be space devoted to small fruits, such as strawberries, raspberries, currants, gooseberries, grapes, and if possible a few blackberries. No one of these need occupy much space in order to furnish a family supply, if well cultivated.

If the present garden is not of sufficient size to produce the necessary vegetables and other desirable products, enlarge it, no matter if it does take in a little of that best piece of mowing. Any time during the month, when the ground is free of snow, will be a good time to cart out barn yard manure, and spread over the surface of any new garden spot, to be ploughed under as soon as the frost is out and the ground can be worked.

If water stands on the surface of the garden, drain it off by surface ditches, but drain it on to your own land, not into the street, if possible. Often a short cut of a few feet will drain a considerable garden and save a large amount of injury.

See that the fences are all up and the gates shut, to keep off stray animals. If you have not already a good fence about the garden, now is a leisure time to get the stuff together ready to build in spring. Seasoned posts will last longer than unseasoned. Stakes, bean poles, pea brush, &c., that may be needed the coming season, are much better prepared during the winter than when wanted.

See that the manure pile and compost heap keep on increasing in bulk, as well as in richness. A great saving may be made, in the aggregate, from saving in little things—the world is made up of atoms. Save the wood ashes, bones, slops and wash from the house, wash room, &c., hen house and roost, which, composted with barn soil, muck, &c., will go far towards fertilizing the garden. So also the privy, managed on the deodorizing principle of the "Earth Closet."

Look over the garden seeds and see if they are all safe and in good condition; make a note of any that may be wanted, ready to order from seed growers at the earliest day, as early orders are best served.

Bright, pleasant weather, as well as extreme cold or changeable, will necessitate a close watch and care of cold frames and their contents. The great object is to keep the plants in a dormant condition, and to do this we must keep the temperature uniformly low, by shading, ventilation and covering the glass and plants.

Look after the fruit and ornamental trees, to see that the mice are not girdling them. Any girdled trees may be saved by an immediate covering of the wounds with a solution of gum shellac in alcohol, or you may take a thick coat of clay, in a plastic state, and bind on with cloth. I have known valuable pear trees thus saved, when girdled by rabbits. Should there be snows or ice to load down young trees and shrubs, carefully shake it off. Great care will be necessary not to break the trees or branches, as they are very brittle when frozen.

W. H. WHITE.

South Windsor, Conn., 1870.

STOCK COMING TO THE BARN.

At a meeting, Dec. 15, of the Westminster, Vt., Farmers' Club, the management of farm stock when coming to the barn for the winter, was discussed, and reported in the Bellows Falls *Times*. The general opinion was that stock was kept out too long. Mr. O. L. Fisher wished there was a law to compel farmers to take up their stock by the first of November. Mr. N. Pierce said we have such a law, and the penalty for its violation is poor stock and thin wallets, enforced without constables or police officers.

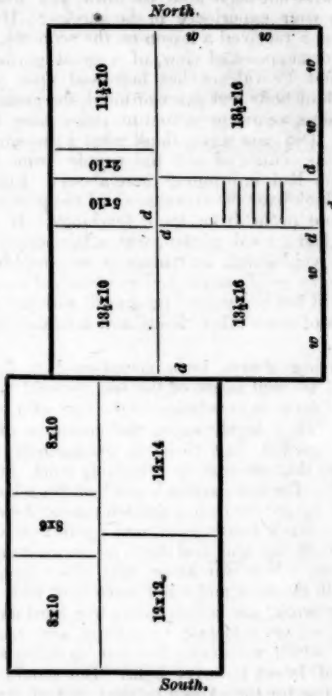
In reply to a question whether meal or grain should be fed at this season, Dea. McNeil said, he did not believe in graining high, but at this season the flesh should be kept on; cows especially must not be allowed to lose flesh; they should be fed *at any and all times* when not able to readily obtain their own proper sustenance. He had fed this six weeks and he feeds good hay, all they want. His stock is limited to cows; he feeds daily from two to four quarts of meal, half cob corn meal and half shorts, to a cow, varying according to the demands of different cows. Others agreed on this principle. The president, N. G. Pierce said, "when my cows begin to fall off in their milk, I begin to feed." He thought it might be profitable to visit each others yards and take a look at the stock and make inquiry how such and such creatures are fed. Mr. J. B. Morse said "If I feed meal in any quantity or to any creature I scald it, and if convenient sometime before feeding."

N. G. Pierce said late feeding injured the land, by not leaving an aftermath upon the ground to enrich it. Some think sheep ought to run out later, on account of its being more adapted to their nature to give them a short winter, yet I think we injure our pastures in this practice.

A COUNTRY FARM HOUSE.

Objections are sometimes made to the high cost and ornate style of most of the plans of houses furnished by professional architects to agricultural papers. During a recent visit among the mountain towns of Vermont, we had some conversation with a carpenter in Plymouth, Vt., who was finishing a dwelling that he had erected the past season for a young farmer of that town. Our friend said that there were few houses in town that cost as high as two thousand dollars, but that one farmer was building a house at The Notch which he understood would cost $3000. Most of the farm houses not cost over five to ten hundred, though from in town would the fact that farmers generally furnish lumber, and do a portion of the work themselves, it was difficult to estimate the actual expense of building. For the house on which he was at work, the owner had cut the lumber, including native black cherry for window casing, from his own land, in the winter season and collected together many of the other materials at odd jobs, including the lime for plastering, &c., which was made from a quarry on the farm.

After a little reflection, however, the carpenter said that at present prices of materal and labor in that locality, he would contract to build another house like the one in hand, and furnish every thing himself, for from $1200 to $1300. He gave us the following plan and dimensions of this house, which is certainly of the better class of farm houses in this mountainous section.



The main part, 26 by 32 feet, is a story-and-a-half, and affords comfortable chamber room. A little more than one-half of this second floor is finished off for three bed-rooms, while the smaller half is left unfinished as a store-room. The ell, 20 by 26 feet, is only a single story.

We have not followed the example of professional architects in designating the several rooms as "parlor," "sitting room," "kitchen," "dining room," &c., partly because, in this case, the owner proposes to rent the ell to the builder for the present, and confine himself and small family to the main part. Nor were all the doors and windows indicated on our rough plan, and as we do not remember the exact location of some of them, we have not attempted to mark their position. The access to bed-rooms, pantries and closets was, whoever, quite convenient and handy.

PUBLIC LIBRARY
DETROIT MICH.

CUTTING THE FODDER, AND USING GRAIN, IN TWO OR THREE WAYS.

OUR own practice in preparing feed for thirty head of stock, —one-half being horses,— is to cut all the fodder, straw, meadow hay, if we have any, corn stalks, and best hay. This is cut by a horse power standing in the barn floor. This occupies from one to two hours twice a week, to cut enough for the thirty head of stock.

A portion of this mass, enough for feeding twenty-four hours, is spread upon the barn floor, sprinkled with water, a very little salt, and strewed with such grain as is used; this is principally shorts. Layer after layer is laid on in this way until a sufficient amount is collected to last twenty-four hours. The heap stands twelve hours, is then thoroughly turned over and remains twelve hours more, when it is ready to be fed out. If the barn in which the heap is made up is a moderately warm one, all the fodder will by this time be impregnated with the taste of the grain and aroma of the good hay. It will also be softened, so as to be easily masticated by the animals, and they will eat the whole with great relish. Or, if any be left, it will be only the joints of corn stalks which are not softened, or some coarse plants of woody fibre. A heap thus prepared should always be kept on hand, so that each heap may stand at least twenty-four hours.

These details may seem to require a slow, irksome, and somewhat expensive process as to the time required. But they will not be found so in practice when the *system*—for it must be a *system*,—is once fairly established. The horse power and cutter will be somewhat expensive to start with, but with good care, both will last for many years. Where thirty or forty head of stock are to be fed, we have no doubt the cost of both would be saved by their use in two or three years.

If the stock consists of ten or fifteen head, only, a good hand hay cutter will answer the purpose, and the horse power may be dispensed with.

In our New England winters there are many days too inclement for out-door labor, and these may be occupied in the barn in cutting the fodder and storing it away in empty spaces for use when mild weather calls the help into field or forest.

An ample experience for many years convinces us that stock can be kept enough *cheaper* to more than pay the cost of labor in preparing the fodder, and that it will perform more labor, produce more milk, or gain more in growth, than it will if fed on the coarse food. An experiment with twelve milch cows through an entire winter gave us the most gratifying results. The cows yielded more milk, kept in good condition, and at one-fourth less cost than when fed in the usual way. Horses thrive as well as neat stock under such feeding.

In order to work on this system, the barn must be sufficiently warm to prevent the heap that is mixed up from freezing; and this ought to be secured in any case, as an economical measure in the care of the cattle. An old sail cloth, cast-off woolen blankets, or any similar material, thrown over the heap, will greatly tend to prevent freezing.

Another plan, and one that is gaining in popularity, is that of

Steaming Food for Stock.

This process will cost much more for the fixtures necessary to be used, and will require much more exact care than cutting and soaking the fodder. This care, however, will make every pound of food tell with the fullest effect in the production of meat, milk, or strength. We have visited several farms where the practice of steaming is adopted, found the system approved, and the stock looking well. The product of milk in the cows was very considerably increased; the horses were sleek and strong and the young cattle with soft, loose skins, and having every way a thrifty appearance.

The most thorough example of steaming food for stock is afforded in the case of Mr. E. W. Stewart, of North Evans, N. Y., in which he details his experience of ten years in steaming food for a large stock of cattle and horses, and states why steaming is beneficial.

PUBLIC LIBRARY
DETROIT MICH.

1. He says it renders mouldy hay, straw, and corn-stalks sweet and palatable.

2. It diffuses the odor of the shorts, corn-meal, oil-meal, carrots, or whatever is mixed with the feed, through the whole mass.

3. It softens the tough fibre of the dry corn-stalk, rye-straw, and other hard material, rendering it almost like green succulent food, and easily masticated and digested by the animal.

4. It enables the feeder to turn every thing raised into food for the stock, without lessening the value of his manure. Indeed, the manure made from steamed food decomposes more readily, and is therefore more valuable than when used in a fresh state. Manure so made is always ready for use, and is regarded by those who have used it as much more valuable, for the same bulk, than that made from uncooked food.

5. It cures incipient heaves in horses; arrests a cough, alleviates constipation, and seems to have all the good influences of grass, —the natural food of animals.

6. It produces a marked difference in the appearance of the animal, at once causing the coat to become smooth and of a brighter color; regulates the digestion, so that the animal is more quiet and contented; enables fattening stock to eat their food with less labor, and to fatten them in one-third less time than on uncooked food. It gives working animals time to eat all that is necessary for them in the intervals of labor, which is important with working horses.

7. It saves, he says, at least *one-third* of the food. He found two bushels of cut and cooked hay to satisfy cows as well as *three* bushels of uncooked hay, and the manure in the case of the uncooked hay contained much the most fibrous matter.

In the case of the Messrs. S. & D. Wells, of Wethersfield, Ct., they think the steaming adds one-half to the feeding value of fodder.

Governor Boutwell,—now Secretary of the Treasury,—has for several years practiced cutting the fodder, at his farm in Groton, Mass., throwing it into a large chest made for the purpose, and letting boiling water upon it; then cover tight, stand twelve hours and feed it out. In this way he found the cattle ate all clean, as meal of some kind had been added, and had flavored the whole. The cows yielded milk freely, and large quantities of the finest butter were made from it, extending, we are informed, far into the winter season.

Boilers are now constructed well adapted to steaming food for stock, so that the whole apparatus may be set in motion at a very moderate cost. Prindle's is one which we have seen in use. It is compact, easily managed, requires but little fuel, is safe, and its cost so moderate as to come within the means of most farmers keeping a dozen head of cattle.

It will be economical for those about setting up a steamer, to visit some already in use, and spending a day by it to learn how it is constructed, and how to "run it" when ready for use.

The present high prices of hay may prove an opportunity to thousands of farmers to turn some portion of it into cash, and at the same time keep the usual amount of stock in good condition, by being more careful and systematic in feeding out less valuable fodder.

Nothing, short of actual experience, will convince the farmer of the great saving which may be effected by resorting to some of the modes detailed above. Numerous experiments, we hope, will be made in these matters, and the results reported to the FARMER, to be published for the benefit of others.

GROWTH OF CEREALS.

At the last meeting of the British Association, Mr. F. F. Hallett read a paper on the "Law of Development in Cereals." His experience showed him several years ago, that grain and especially wheat, was injured by being planted too closely. He found a wheat plant would increase above the ground in proportion as its roots had room to develop, and that the roots might be hindered by being in contact with the roots of another plant. He continued a series of experiments, planting one kernel of wheat only, and succeeded so well in improving the method of cultivation as to raise wheat whose ears contained 123 grains. In the course of his investigations Mr. Hallett made other discoveries with regard to the growth of cereals, which he sums up as follows:—

1. Every fully developed plant, whether of wheat, oats or barley, presents one ear superior in productive power to any of the rest on that plant.

2. Every such plant contains one grain, which upon trial, proves more productive than any other.

3. The best grain in a given plant is found in its best ear.

4. The superior vigor of this grain is transmissible in different degrees to its progeny.

5. By repeated careful selection the superiority is accumulated.

6. The improvement which is first raised gradually after a series of years is diminished in amount, and eventually so far arrested, that practically speaking, a limit to improvement in the desired quality is reached.

7. By still continuing to select, the improvement is maintained, and practically a fixed type is the result.

PREMIUM WHEAT CROP.

Mr. S. Kilbreth, of Manchester, Maine, makes the following statement in the *Maine Farmer* of the crop of wheat on which he was awarded the first premium at the late fair of the Kennebec Agricultural Society:—

The land on which my wheat grew was a deep, gravelly loam, planted the previous year, part to corn and part to potatoes. Upon the part planted to potatoes, after harvesting I spread six cart-loads of barn manure. Upon the part planted to corn, I put one shovelful of compost manure in each hill of corn; ploughed and pulverized the ground in the fall; ploughed again in the spring, and harrowed before sowing. Sowed the 5th of May two bushels of Java wheat; harrowed once, and spread upon the piece one hundred bushels of leached ashes; then harrowed again and rolled it. Harvested about the 10th of August; threshed the first week in September 22½ bushels of wheat.

Dr.

3 cords of manure	$12 00
100 bushels leached ashes	15 00
Ploughing land	4 00
2 bushels wheat	4 00
Sowing	2 00
Harvesting	4 00
Threshing	4 00
Applying ashes, &c	5 00
Total	$50 00

Cr.

22½ bush wheat at $2.50 per bush	$56 25
1 ton of straw	8 00
Manure and ashes left on hand	10 00
Total	$74 25
Credit	74 25
Debt	50 00
Profit	$24 25

Another Pork Scare.—The Pottsdam, N. Y., *Courier and Freeman* says that on slaughtering a sow of 450 pounds, fattened by Mr. H. D. French of that town, a dark colored streak was noticed extending under the back bone through the loin, in the lard, which on close examination proved to contain dark brown worms, from three-eighths to nearly one inch in length, with heads about the size of a pin's head, with slim tapering bodies. Nothing of the kind was perceptible in the lean meat, but they were found in clean looking parts of the lard. The hog was purchased last spring from a drove of western pigs.

Cutting Herdsgrass in Blossom.—At a recent discussion of "Our Hay Crop," by the Keene, N. H., Farmers' Club, most of the speakers favored early cutting, and two days drying. The plan of ploughing in August, manuring and seeding at once with herdsgrass, and sowing clover in the spring, was practiced by several. Mr. Williams used twelve quarts of herdsgrass and five pounds of clover seed; Mr. Twitchell sixteen quarts herdsgrass, half bushel redtop, and six pounds of clover. Mr. M. B. Foster said "I would cut herdsgrass before it was in blossom or let it stand till the seed is partially matured. I would never cut it while in blossom on account of the injurious effects of the dust that will be in the hay."

Plain Talk.—Mr. D. A. Compton, of Hawley, Pa., was present at a late session of the New York Institute Farmers' Club, and said, "It seems to me that men who ought to know better—men whose names carry some weight in matters of agriculture—do a great wrong in assisting the rascally manufacturer or vender in swindling the honest farmer by so highly recommending certain mechanical fizzles."

Rheumatism in Sheep.—This disease consists in a peculiar inflammation of the muscles of the body, very frequently causing considerable pain when they are called into action. It is usually caused by exposure to cold, and sometimes shifts from one foot to another, occasionally degenerating into a slow or chronic form, and attacking the sinews, ligaments, and joints, as well as the muscles. The neck and loins are the parts most frequently attacked, either separately or combined. The former affection causes the head to be carried in a bent position, and the latter produces considerable stiffness and weakness of the loins. The treatment should consist in removing the animal to a comfortable place, giving an active purgative, such as two ounces of epsom salts dissolved in warm water, with a drachm of ginger and half an ounce of spirits of nitrous ether. A stimulant, such as hartshorn and oil, or opodeloc, should be well rubbed over the affected part; and if the disease assumes a chronic form, a seton should be inserted near the part.—*Dr. N. H. Paaren, in Prairie Farmer.*

Old and New Places for Raising Fowls.—During 1869, I raised about 150 fowls on an old place where fowls had been raised more or less, for years. The consequence was, I lost at least one-third of all hatched, by the much dreaded gapes. I tried nearly all the remedies recommended, but my only success was in removing the worms with a feather trimmed for the purpose. This year I am on a new place where no fowls were ever kept. I set my first hen on the 29th of January; I have now about 140 chicks out, some one-third grown, and not a single case of gapes or other sickness yet; treatment the same in both years.—*Poultry Bulletin.*

For the New England Farmer.

SURFACE WATER FOR CATTLE.

A correspondent "J," in the FARMER for Dec. 3d, recommends securing water for cattle in pastures, from the collections of rain and snow in low places.

I have a field which I wish to pasture, but which must be provided with water, either by digging a well at considerable expense, or by some such means as building a cistern to obtain water, as "J." recommends. Now I would inquire whether water thus secured, would continue to remain good, healthy, and palatable, for cows giving milk, through the pasturing season. F.

Franklin, Mass., Dec., 1870.

REMARKS BY J.—In answer to the above, which the editor of the FARMER has sent to me, I confidently say yes, it would remain good, healthy and palatable. The reservoir should be covered either by a roof or by cross timbers covered by a plank floor. This would keep the heating influence of the sun from the water, and keep it cool. When stagnant water is exposed to the sun, a green, stringy vegetable growth forms, that looks disagreeable. Then, if it is covered, the cattle will be kept out of it, as well as flies and bugs.

I should prefer to have it enclosed, and a roof over it, if in the pasture, so as to keep cattle from above it. To secure it from frost in winter, it would be advisable to cover the plank before mentioned with earth.

What impure water cows often drink in dry seasons! Many herds have the slow and last drainings of swamp lands; water charged with a variety of mineral salts and rotting forest leaves and other vegetable substances,—a regular herb tea! The water of springs as they run slowly in mid-summer over various rocks and soils is impure and brackish.

Within a year my uncle brought the water from a distant spring, to his house. While the season is wet it does well, but in the drought of last summer it showed strongly of sulphur, both to the smell and taste, and was seldom offered to a stranger, without an apology. The water from rain and snow is nearly pure, and if gathered in cement cisterns when it flows copiously, it cannot be very impure, even if it runs a short distance on the ground, over a good turf.

How large must a cistern be to hold enough to last ten cows six months? At my barn I have a circular cistern eight feet in diameter and seven feet deep, made by cementing upon the earth, with a flat cover of plank, upon ash stringers. I watered seven head of cattle there two and a half months last winter. I have a brother who has a cistern made in clayey ground, cemented inside of plank, about the same capacity as mine. It furnishes water for five or six cattle and a span of horses most of the winter. Near his house runs a brook early in spring and late in fall, but is dry in mid-summer and mid-winter. In the bed of this brook he dug a pit about six feet square and eight deep, stood up plank around its sides and I think packed clay outside the plank. This, with the cistern, is depended upon for water, but I cannot tell the exact time each will furnish water for stock.

For a permanent supply I would dig a pit ten feet wide and from twenty to thirty feet long and from eight to ten feet deep. The bottom and ends might be oval, so that most of it could be dug with a team and a common road scraper. Finish the inside tolerably smooth, and three barrels of cement, costing from nine to twelve dollars will coat it over water tight. Before the cementing is done, timbers should be laid across the narrowest way and a plank floor laid, and then the edges of the cistern beneath should be cemented flush up to the plank so that mice, frogs, snakes, and other vermin can be kept out. Make a wire screen for the entrance, so that leaves shall be kept out of the water.

In blue clay soil I should try such a pit without any cement, and believe the supply of water would be permanent.

I have watered my cattle several winters in a hole from which I drew muck, and the water continues in good supply all winter. In this case, however, the land for an acre or so around the hole is saturated with water which helps keep up the supply.

I am told that the Pacific Railroad supplies its engines from tanks that are filled in the wet season, and that at the West surface water is collected for cattle, in the same way; but my impression is that many pools there are not covered, consequently the sun shines upon them, and the cattle poach up the sides into deep mud and add their own droppings to the stagnant mass.

In some cases a pit like the one here suggested would add hundreds of dollars to the value of a farm, and be a very cheap way of providing water. My neighbor is to-day drawing muck to his barn-yard, that he threw out of a pit last summer, which has furnished water for eight head of young cattle,—not surface water, but the moisture that leached in from the swamp around. The cattle have done well. This pit was not prepared in any way; a pool formed where the muck was dug out. J.

FOOT-ROT IN CATTLE.—A correspondent furnishes the *Mirror and Farmer*, Manchester, N. H., the following remedy for this disease:—Put them in a place where you can handle their feet, and then take half a pint of common tar and as much soft soap, put them into any vessel, and heat them together until they get thoroughly mixed; then let it cool down some, but not too much; put it on the parts affected quite hot, and in seven cases out of ten it will effect a cure, but if it does not, repeat the soap and tar, which will be sufficient to cure any case that I ever saw, in a few days.

QUESTIONS TO FARMERS.

For several years past New Hampshire has had no board of agriculture, and consequently there has been no official report on the progress of this important interest of the State. Last year a Board was organized, and it has entered vigorously upon the discharge of its duties. The Secretary, J. O. Adams, has issued a circular designed to call out the information necessary to enable him to make a report that will be valuable to farmers, and creditable to the State. Statements of facts are requested on the following specified topics, with such suggestions as may occur to the minds of those who reply.

1. Give the names of some of the agricultural men in your town, with the specialties to which they give attention.
2. Report the harvest of the various crops, compared with ordinary years, naming each crop specially.
3. What are the chief sources of income to farmers and other classes in your town?
4. Have you a Farmers' Club in the town or neighborhood? If so, report names of officers. If not, will you take steps to organize one, consulting, if you wish, the member of the Board in your county, in regard to it?
5. Give the names of such insects as are injurious to vegetation in your section, and state what means are used to destroy them or prevent their depredations.
6. What commercial manures are used in your vicinity? How are they applied, and with what advantages?
7. What new or improved implements for farming have been introduced within a period of twenty years, and what advantages have resulted therefrom?
8. Are any kinds of blood-stock found among your farmers? If so, what owners and what breeds can you name? Also, inform us as to the advance in the price of horses, neat stock, &c., within twenty years. Give the names and residences of the owners of stock horses.
9. Is the product of corn, potatoes, and other farm products greater or less, per acre, than it was ten years ago? If either, how much?
10. Do your farmers attend the State and County Fairs, or other fairs, and make exhibition of stock or farm products? If not, why?
11. Do the farmers in your section take agricultural papers, read agricultural books, and study to improve their methods of cultivation?
12. Do your farmers keep farm accounts, make experiments and profit from the results?

The secretary says he was authorized at a recent meeting of the Board to "issue a circular to such men as he has reason to believe are *interested* in the agricultural prosperity of the State." And we note the fact that the circular of Secretary Adams appears to be addressed to those who are "interested" in agriculture, rather than those who are *engaged* in that branch of industry, not in a spirit of verbal criticism, but from a conviction that just here we discover the missing link in the chain of sympathy which should bind our Boards of agriculture with the hordes of agriculturists. That there is a break somewhere in this chain has been acknowledged and regretted by nearly all the managers of State Boards wherever such organizations exist. The complaint is almost universal that those who are actually engaged in agriculture do not co-operate with those who are "interested" in that pursuit. Meetings are held by the latter, but the former fail to attend. Discussions are appointed, but those actually engaged in farming fail to respond to the arguments of those "interested in agriculture."

It is much easier to confess the unpleasant fact of this want of co-operation between State Boards and State farmers than it is to prescribe a remedy. But we would suggest that as far as possible all communication between them should be direct and personal, without the intervention of any middlemen, however eloquent, active or "interested" they may be. Instead of asking "Do *your* farmers," or "Do *the* farmers in your section?" "why not inquire, directly, Do you, Sir, or Do those carrying on the farms adjoining yours?

When farmers were not in the habit of reading and writing, but depended on their minister and the Squire for the performance of these exercises, a more roundabout course might have been advisable to obtain information, but now we do not think it is necessary. At present, the men who are practically engaged in agriculture are able to speak and write *when* they feel themselves called upon to do so, and *where* they think it is proper for them to make the attempt. Why are not the meetings of Boards of Agriculture regarded by farmers as such time and place? And why should not official circulars be addressed to them directly and personally?

For the New England Farmer.

THE SHARP STICKS---BEAVERS AND MUCK BEDS.

The sticks found under a muck bed in New Hampshire, which were mentioned in a late number of the FARMER were undoubtedly sharpened by the teeth of beavers. There are in many localities in the Eastern States, and especially in New England, traces of the works of the beaver. Many of their dams which I have seen in Vermont are still in a good state of preservation; and by digging into them plenty of the sharpened sticks mentioned by your correspondent can be found.

A marshy place through which a small stream runs, and which is covered with a growth of alders and willows, is generally selected by the beavers for their operations. A dam is thrown across the stream, often in zigzag form, and a shallow pond made which serves as a receptacle for their food, cheap transportation, and shelter from their enemies, also, a fish preserve of the best kind.

These ponds gradually fill, in the course of time, with a vegetable deposit brought in by the stream and other agencies, and the sticks are thus covered, sometimes many feet, if the pond had considerable depth.

Having seen the operations of many colonies of beavers in the Rocky Mountains, on

the head waters of the Platte and Arkansas rivers, I will give a brief account of the workings of a colony, which I watched with no little interest, on Clear Creek, which is quite a large and rapid stream, and a tributary of the Platte. Its northern bank, at the place selected by the beavers, was about three feet above the water. Between the bank of the stream and the base of a mountain—some fifty or seventy-five yards distant—was a basin or depression of the ground, two or three acres in area, covered with a growth of what is called there the quaking aspen tree, similar to our New England poplar. This ground was, in the lowest place, perhaps two feet below the bank of the stream, and admirably adapted to their wants.

In filling this basin with water they displayed engineering skill truly surprising. They went up the stream some thirty or forty yards to a point higher than the ground they wished to flow, and dug a ditch to the basin through which the water flowed and formed the pond. All the low places at the lower end of the pond where the water would be likely to escape was protected by short dams made of small sticks, mud, leaves, &c. Small ditches were also dug radiating from the basin, among the timber, to facilitate transportation—on the internal improvement plan.

The engineering being completed, the falling of the timber was rapid and systematic. Trees were levelled of all sizes, from three to fourteen inches in diameter—cut up into blocks or sticks, from twelve to fifteen inches in length, floated through the canals into the pond, sunk and stuck fast to the bottom; but how stuck, I did not learn. The sticks were all conical in form at the ends, as they gnaw entirely around the wood, coming to a point in the centre, with the accuracy of an experienced wood chopper.

A house is built on the margin of the pond, but above high water, with subterranean passages leading into the water, through which they bring the billets of wood when wanted for food. After having eaten the bark therefrom, the wood is conveyed to the stream, where it floats away. The water is let into and out of the ponds at their pleasure, but in winter it freezes over, forming a secure depot for their food.

Hoping these remarks will be of interest to farmers who are "prospecting their muck mines," I have the honor to remain, yours truly,

PIKE'S PEAK.

Montpelier, Vt., Nov. 1, 1870.

For the New England Farmer.

PLOUGHING PASTURES.

The crop desired in a pasture is grass, and notwithstanding the great vitality of the many plants called grass, there are causalties that destroy them. Severe freezings, when the ground is bare; long continued drought; the overflow of water, and the encroachments of other plants, such as moss, brakes, thistles, ox-eye daisy, raspberry bushes, &c., cause a pasture to yield less than it ought.

Sometimes it is advisable to replenish the stand of plants by sowing seed upon the turf; and with no further care an improvement is often visible. Where the seed is mixed with a good dressing of well rotted manure, and then harrowed in, the result in many cases is satisfactory; though the surface of a pasture, packed hard by the tread of cattle, is not the best seed bed. It is therefore frequently advisable to plough.

In ploughing a pasture to improve it, it should be well turned over and well worked with the harrow. It should not be cropped several years to exhaust its stores of fertility, but re-seed the first or second year with white clover, June grass and red top. As these grasses spread from their roots and also scatter their seed, they will soon make a thick turf, while Timothy is a stationary bulb, and red clover does not multiply itself by its root and is not a permanent plant.

In case moss, (Bear's wheat or Robin's wheat) and white daisy is crowding out the grass, plough only once, re-seeding the first year upon the inverted sod. Do not let the moss see day light again; but upon the inverted sod, well pulverized and dressed with fine manure, sow grain and grass seed; fence it from the cattle and harvest the grain and mow the grass the next year, if the land can be spared from pasture. If the land cannot be spared from pasture, it would perhaps be best to sow winter rye in September, with grass seed, keep the stock off in the fall and early in spring, and then let them graze the rye, that would in a degree protect the young grass and give more feed than was grown the year before.

If brakes and raspberry bushes or other shrubs are plenty, mow them in August, rake and burn them or otherwise dispose of them if they are so plenty as to clog the plough; then have a plough with all its front edges as sharp as possible, and plough the ground in the fall; then harrow it so that many roots will be exposed to the frosts of winter, which will kill many of them. For a smothering crop, buckwheat or India wheat is the best. Sow in June, after repeated harrowings during the spring, and sow no grass seed. In the fall plough and harrow again, and the following spring sow barley or oats and grass seed (unless the land needs another year's working to improve it,) but expect a volunteer crop of buckwheat with whatever is sown. As a first crop, a rank growing potato is about equal to India wheat, requiring more work and giving more profit.

Pasture is often ploughed to reduce or impoverish it. Sheep will so enrich a hill top that its rank grass will not be eaten, and a favorite resting place of cattle will soon be-

come too rich. In such cases, a monstrous crop can be grown a year or two, and the land re-seeded with advantage.

But ploughing pastures to reduce their fertility should be undertaken with caution, as it is decidedly better to have land too rich than too poor, and by a mixture of stock, most of the feed will be consumed.

If land is sandy or light and produces nearly nothing, turn it over and sow grass seed and rye and give a dressing of ashes, lime or composts.

In ploughing steep hill sides it is not advisable to finish them off with such a smoothness as pleases the eye, as in that case the water from showers and melting snows would run in haste to the bottom, leaving the soil still thirsty.

If good deep furrows were made horizontally along the hill sides to stop the descent of water, the yield of grass would be increased and the soil retain its fertility. J.

POTATOES FOR STOCK FEED.

Not one farmer in fifty realizes the true value of potatoes for stock. They are not only good for horses and cattle, but for hogs, calves, and poultry. When storing the present harvest, all those too small for table use, should be sorted out, kept, and judiciously fed. As to their value for milch cows, experiments have proved them to exceed that of almost every other root. Our readers will remember the statement made by Mr. R. A. Hunt, of Euclid, Ohio, some months ago, in regard to an experiment made. While thirty-six quarts of carrots were fed, thirty-two pounds of milk were received daily; with the same amount, one-half potatoes, thirty-six pounds of milk were given; and when potatoes were fed alone, *forty* pounds of milk were received. The roots were cut and fed raw three times a day, in messes of twelve quarts each.

The above is heavier feeding than is necessary, but very plainly shows the value of this vegetable as a milk producer. We believe, from experience, that they are also a profitable feed for the making of flesh, and the laying on of fat.

As a feed for calves, they make one of the very best substitutes for milk, containing as they do sixteen per cent. of starch in a natural state, and sixty per cent. in a dry state. They should be boiled as for table use, the skins removed, mashed thoroughly, and put into milk. Calves eat them in this way greedily, and thrive remarkably well. They will not cause scours as grain feed does, and tend to keep the appetite regular.

As a feed for horses in winter time, the potato possesses rare qualities as a regulator; they may be given once or twice a week, say, in messes of a few quarts. For hogs, they should be boiled, mashed and mixed in the swill barrel with kitchen slops and milk, with a liberal quantity of wheat bran or corn meal added. This makes one of the cheapest as well as one of the best early feeds for swine, and puts them in a healthy and thriving condition for fattening, and wonderfully saves in pork making, when compared with corn-feeding alone.

Potatoes are profitable as a spring feed for sheep, and especially for ewes raising lambs; they give strength, health and appetite, and produce milk abundantly. For sheep, they should be cut and fed raw once a day. One of the best methods is to cut fine and mix with wheat bran or ground oats. As a choice, for breeding ewes in spring, we would prefer to have fifty per cent. of the feed potatoes, by weight, than to have the whole amount either oats or corn.

Potatoes boiled, mashed and mixed with corn meal, and fed hot, are excellent for chickens in winter. We know a poultry dealer who always uses this mixture, and for health of fowls and production of eggs, no benery, to our knowledge, excels his, according to the number of chickens kept.—*Ohio Farmer.*

EXTRACTS AND REPLIES.

FOUNDER AND THRUSH IN A HORSE.

Please tell me what are the causes and remedy of founder in a horse? Will Hungarian grass cause founder? What are the signs of founder? If you or any of the readers of the NEW ENGLAND FARMER will answer these questions, you will confer a great favor on me. What is the cause of thrush in horses' feet, and what will cure it?

East Taunton, Mass., 1870. H.

REMARKS.—In the common language of horse-dealers, there are two kinds of founder; chest founder and founder of the feet. The latter is occasioned by bruising or straining the fleshy plates in the interior of the feet. They are full of blood-vessels and are liable to be inflamed when injured by violence, or long continued action in racing or hauling heavy loads. Founder is also brought on by leaving the animal in the cold after hard driving, or standing long with wet feet in cold weather. After a hard drive, some persons will place the horse in a warm stable, and in litter up to the knees. This sudden transition from cold to hot, will sometimes bring on an attack of acute founder.

When returned from such a drive, what the horse needs is thorough, gentle hand-rubbing, with woolen rags, or wisps of soft straw. This ought to be continued until the horse is nearly dry all over the body, and is comparatively cool. The circulation of the system is then equalized, and unless there has been some severe local strain on the laminæ, or fleshy plates referred to, there will be little danger of founder.

Again, over-driving and exposure will sometimes bring on an attack of inflammation of the lungs; this, all at once, will change to inflamma-

tion of the feet, or similar affections in the bowels or eyes. It is always best to prevent these diseases by moderation in driving and loading, and in kind treatment of the animal in every thing.

The remedies are bleeding, soaking the feet in warm water, poultices, and sedative and cooling medicines. Sometimes blistering is resorted to. All these things, however, should be done under the advice of some surgeon or physician.

Thrush is usually occasioned by filth of one kind or another. It is a foul discharge from the cleft of the frog, and attended with disorganization of the horn. Sometimes, however, thrush springs from internal disease. If it arises from internal disease it commonly shows itself in the forefoot.

For a cure, remove the animal from all filth, pare away the frog till only sound horn remains, or the flesh is exposed, and tack on the shoe. Wash with chloride of zinc, three grains to an ounce of water, the cleft of the frog. When the stench has ceased, a little liquor of lead will perfect the cure.

We have had three cases of acute founder, and one case of thrush in our horses. The latter was easily managed; but the founder was incorrigible, and kept the poor animals tripping and stumbling along in an awkward and dangerous manner, always after the disease was upon them.

FERTILIZERS FOR APPLE TREES.

How shall I properly manure a piece of land on which are twelve large apple trees only fifteen feet apart, and the ground too much shaded to cultivate, although by top dressing it produces a good crop of grass? The trees seem to want more food than simply a top dressing, which is probably no more than the grass needs. What shall I apply this fall to afford a perceptible benefit to the trees?

Medford, Mass., Oct. 20, 1870. AMATEUR.

REMARKS.—Top dress liberally this fall, and upon that sow fifteen bushels of unleached wood ashes. If you cannot get the ashes, dissolve their equivalent of potash, and saturate loam or peat with it and sow upon the land.

WART OR TUMOR ON COLT.

I have a valuable three-year-old colt which has a wart just back of the fore leg, which has been there two years. Two months ago it commenced to maturate and run a whitish substance, which was somewhat offensive in smell. It appears to be wholly in the skin, and has been gradually spreading. Immediate advice as to a cure will greatly oblige A YOUNG FARMER.

Auburn, Me., Nov. 9, 1870.

REMARKS.—We fear you have something to deal with of a different character from an ordinary wart. You are probably familiar with the use of a string or cord, and of caustics for their removal. Equal quantities of spirits of turpentine and sulphuric acid, mixed thoroughly in a glass tumbler, and then put into a vial, may be applied with a feather once or twice a day to the roots of common warts, and it will gradually eat them off. From your description of the case, we doubt whether either could be safely applied to your horse. If there is no veterinary surgeon in your neighborhood, we think it would be well to get the opinion of some regular doctor, after a personal examination. Mr. S. N. Tabor, of East Vassalboro', in your State, says he has been entirely successful in ridding horses of common warts by dosing the animal with chopped cedar boughs, given in his grain, also washing the warts in a strong decoction of cedar. But the one on your colt has been there so long, and is in such a condition that it will probably require skilful treatment.

COMPOST FOR TOP DRESSING.

I have a pile of muck which I wish to compost with chip dirt, lime, &c., as an experiment for top dressing. Will it be best to mix lime this fall or not till spring?

Will a compost of such materials for top dressing grass land pay? The soil is a yellow gravelly loam good for grass or corn. My idea is to apply the compost early in the spring and sow clover seed and thoroughly harrow the turf.

East Dover, Vt., Oct. 20, 1870. E. F. SHERMAN.

REMARKS.—Mix the whole immediately. If the compost is fine, and in proper condition apply it this fall, and sow the seed and brush-harrow in the spring. The carting can be done much better now than in the spring, and the rains will wash down the dressing among the roots of grass, and prepare it as food for the next crop.

SWELLED ANKLE OF A HORSE.

Last June I purchased a very valuable mare, and ever since I have noticed a slight swelling of one hind ankle on standing in the barn awhile, but which disappears after a little usage, or while running in the pasture. What is the cause, and what the remedy? A SUBSCRIBER.

Vassalboro', Me., Sept., 1870.

REMARKS.—Swellings are of so many different kinds, and result from so many different causes, that we are unable to answer the inquiries of our correspondent. The cause of the swelling must be ascertained before remedies can be prescribed further than the most simple ones.

SALTPETRE IN CREAM.

Your correspondent "S. O. J.," in the article on "Gilt-edged Butter," says Mrs. A. puts two heaping table spoonfuls of saltpetre in her three gallon cream jug; and that "this keeps the cream perfectly free from bitter taste, and does not harm the buttermilk *in the least degree.*"

The italics are your correspondent's, and it is not my purpose to attempt to controvert the position; but I would like to have some of your scientific or professional readers do the public the kindness to inform us of the advantages and disadvantages of such an excessive use of that article. How does "S. O. J." know that it has been used for years without any deleterious effects? Arsenic, and nearly the whole range of poisons, narcotics and stimulants have been used for years, and in some instances, without *apparent* deleterious effect; but that only proves that the living system can in some degree adopt itself to unnatural conditions and circumstances.

After taking thirty-six pounds of butter out of the contents of a three gallon cream jug, the little

buttermilk that is left must be pretty heavily charged with the two heaping tablespoonfuls of saltpetre. Pretty good cows those four must be to make an average of one and four-fifths pound per day, after milk and cream were "used freely in the family." O. S. Bliss.

Georgia, Vt., Nov. 7, 1870.

GRAFTING THE GRAPE VINE.

I have a grape vine which came from a raisin stone. It is six years old, very thrifty, but has never borne a grape. I wish to know if it can be grafted, and if so, how, and at what time? If you can tell, please give information through the columns of the New England Farmer, and oblige a subscriber. Mrs. H. A. B.

West Windsor, Vt., Nov., 1870.

Remarks.—The grape vine can be successfully grafted, though it is not commonly resorted to. The grafting is done at the root, as follows:—wait, in the spring, until the vine has pushed its first leaves to the size of a dime; clear away the earth from the stem and graft much as is done in apple grafting. Cover with a good body of grafting clay, crowded close to the wood, and then press the earth carefully but firmly around, leaving but one eye of the scion above the soil. The scion should have three or four eyes or buds, and a little of two year's old wood at the bottom of the cutting.

It is more convenient grafting if the vine is taken up, and then plant it again, but something is lost in growth.

HARD, OR CONTRACTED FEET, IN THE HORSE.

Please inform me what I shall do for a horse's feet that have become dry and hard, so that the horse is lame in consequence of it, as I suppose. I have tried bathing the feet with water, frequently, this summer, and thought I was taking a great deal of pains to keep the feet moist. I have even stuffed them with green cow manure; but all the things that I have tried do not seem to do any good. I have no books that treat upon such a subject wherein I can get information.

Is there not some kind of ointment in your knowledge that would be of value in such a case, to keep the feet in a moist state after they had been soaked out? Would not urine and salt mixed together, be a good wash to use in softening them? I wish to try some remedy different from what I have tried yet. Please inform me through the columns of the New England Farmer, and by so doing you will oblige a Subscriber.

Taunton, Mass., Oct. 28, 1870.

Remarks.—The condition in which you describe the feet of your horse is not an uncommon one, and yet the cause and the cure are, to most of us, shrouded in mystery. A full third of all the horses we notice, "point" with the forefoot; that is, when stopping on the road, or in their stall, they reach out the fore foot and allow it to rest slightly on the toe. Frequently both feet are affected, and then the suffering animal changes every five or ten minutes, from one foot to the other, seemingly unwilling to bear his weight on either foot, and would not if he could avoid it. In such cases, the foot is thrown out of use, except when the horse is in actual motion, and would naturally decrease in size, as the human arm would if held in a sling for an extended time. So the horse's foot, spared in travelling and "pointed" in the stable, obviously changes its shape. The quarters draw inward; the heels narrow; the frog hardens and decreases; the sole thickens and heightens; the crust becomes marked by veins and grows considerably higher. In fact, the foot from being an open, healthy foot, becomes a *contracted* or diseased member.

To say, therefore, what ought to be done for a horse's feet that are "dry and hard," one ought to know what *causes* such dryness and hardness; and this is frequently quite difficult to ascertain. It may be occasioned by too much pressure upon the frog, by a strain, or by stepping upon a stone or other hard substance.

If in travelling the toe of the shoe becomes worn much more than the rest of it, it indicates that the tendon which covers a portion of the navicular bone,—lying at the inner corner of the coffin bone,—has become injured, and ossification has taken place; that is, a sponge-like appearance of the tendon. It then becomes extremely painful, and being out of sight, it is difficult to determine what to do for it.

The only remedies which seem to be relied upon the most, are light work, kind treatment, and keeping the feet moist. The latter may be done by keeping the animal standing on moist sand in the stall, and by soaking the feet every other night, for one hour, in hot water, for two or three weeks, and tying them up until the next morning in old woolen cloths. Bleeding is sometimes resorted to, and so is a division of the nerve of the leg; but they are of doubtful service, and ought not to be resorted to only by experienced surgeons.

The disease indicated by a *pointing of the foot*, is very common, and ought to receive thorough investigation by veterinary surgeons. It makes the horse a very uncertain traveller. He becomes slow and awkward in his gait, shrinks when he goes down hill or over stony ground, and is liable to stumble and fall on any ground.

We would not advise the use of cow dung, or the urine and salt which you mention; but rather stuff the foot with wet cotton, or something which will retain the moisture. The cotton may be kept in by placing a small piece of flat wood across the shoe. Wet the cotton when it gets dry.

THE QUINCE JAPONICA.

Can you, or any of the correspondents of your valuable paper, tell me whether the fruit of that beautiful flowering shrub called "*Quince Japonica*," can be made of any use? I have a large bush of it, which I have kept in my garden more than ten years, because of the beauty of its flowers. This year it bore about a peck of fine looking fruit, somewhat resembling a quince in flavor, but more acid. I think I have heard the shrub called *Chinese quince*. I notice in Botany it is classed with apples and pears in the genus pyrus.

Inquirer.

Remarks.—The "Japan" Quince, or as it is often called, the *Quince* Japonica, is one of the most

beautiful of our flowering shrubs. Like some other fair things, however, it has nothing but its beauty to recommend it,—and that is enough in this case. We have never heard of any use being made of its fruit, nor can we find any such reference in the books.

BULLS AND STALLIONS AS WORKERS.

In an English edition of a work "On Force," by Charles Bray, it is asserted that "geldings and oxen have much more working power, that is, enduring muscular force, than stallions and bulls." This is not in accordance with my opinion on the subject, formed from observation of quite a number of experiments with animals in both conditions, in continuous labor and in exhibitions of strength and endurance.

The same writer says, "the sexual feeling is generally the strongest in the system and absorbs the largest amount of force;" but may not this force be expended in the labor performed by the bull or stallion which is kept at continuous work?

Quite a number of instances have come under my observation where an entire horse in a team, has, as the saying is, worked horse after horse to death, and the owner has offered almost double price for one which could do as much work as the stallion; but, I have never known the reverse of this, to be true. As a class, do geldings do better on the course than stallions? Some very fine and fast geldings, of course, are to be found, but, had they been left entire, and had the same care and training, what would they have been capable to accomplish, is the question.

Time and again have I seen the bull worked with the ox, of equal age and girt, and in a yoke with one to six inches the shortest end, and other things being equal, prove more than a match for any ox which could be obtained; but, there has not come to my knowledge a case where it has been the reverse. Several instances have been observed where the owner affirmed that his bull would do as much work upon the harrow or stone-boat, in a short yoke, as a pair of oxen of equal size would do; and, at some of our shows and fairs the single bull has competed with a pair of oxen in a test of strength, and made a good show at that.

One conclusion, though not entirely satisfactory, has rather been forced upon me, and it is this: that bulls and stallions do not endure exposure to heat or cold, as well as oxen, geldings, cows and mares; but *why*, is the query, if the fact is admitted. In testing their endurance of muscular exertion of a continuous nature, they should not be put to any other use during the trial.

The facts—truth—are wanted,—that is all. And if any who have made fair trials have come to a different conclusion from that I have expressed, I shall be very happy to hear from them.

There are well known advantages in emasculation, such as greater docility, &c., but are strength and endurance promoted or increased thereby?

Farmington, Me., Nov., 1870. O. W. TRUE.

GRASS-FED STOCK.—CORN RAISING IN NEW HAMPSHIRE.

When I read the article in the NEW ENGLAND FARMER on grass-fed beef,—comparing some from Vermont that had no grain in it, with that from the best Western steers,—I should, had I a voice loud enough, have given three cheers that would have echoed from one hill to another throughout New England.

Last winter the farmers of New Hampshire were urged to "plant another acre of corn" to make up the amount we consumed. Grass was ignored. The use of corn was not discussed, but it was declared by some of your correspondents that we *must* have corn to have beef.

The importance of keeping animals constantly growing is fully appreciated by few farmers in New Hampshire. "Spring poor" is a significant, but very common phrase here.

This summer we fed two calves with skimmed milk, and hay or grass, until they were about twenty weeks old, when they were worth $25 each, to kill or to keep, as that amount was offered by the butcher, and paid by a man to keep. They ate no grain. Many heifers and steers two years old are sold for less money; but they are animals that have been subjected to the starving process twice at least during their growth. There is no foundation in truth for the statement that New England farmers *must* keep their cattle in that way. Nearly all of our pastures are good at some time in the year; but very few remain so during the twenty weeks that are generally considered the pasturing season. All of our farms may produce something to furnish food for stock in the summer, when the grass becomes dry and innutritious. Cattle that are thriving, will fatten as quickly as others that are growing poor will recover their thrifty condition.

What is to be the subject discussed this winter? If the same subject was discussed throughout the State, and the discussions reported, we could have the experience of our friends in other parts of the State to meet our opponents at home. Better arguments than have ever yet been offered, must be advanced to induce us to hoe another acre of corn more than we have done.

New Hampshire, Nov. 1870.

AN EXPERIMENT WITH ITALIAN BEES.

Five years ago last spring I had an Italian queen put into a swarm of black bees. The next season they swarmed four times. The two first swarms sent out two colonies apiece; the third swarm one, which flew off, and the fourth one, which was also lost. The others I saved; making nine swarms from one in one season. Since then they have not swarmed more than the black bees ordinarily do; and have barely gathered honey enough to live on through the winter, although the first year every swarm had abundance of honey, even the third and fourth, as the fourth was stopped a mile from home. Now, why is it? I have kept bees over thirty years, and never heard of the instance of such an increase of bees in one season as I have mentioned, nor should I believe it if I had not had the sole care of them, and know it to be so. This season I have but two young swarms that have honey enough to winter. ORSON TOWNE.

North Dana, Mass., Nov. 11, 1870.

PREPARING TUBS FOR BUTTER.

In reply to the request of "Learner," I will give the method I have practiced for over twenty years, and have never had any occasion for complaint that the butter tasted of the tub.

After soaking a new tub in cold water to ascertain that it does not leak, I fill it with skimmed milk; much preferring that newly soured. Let it stand from thirty-six to forty-eight hours, then pour it out, wash and scald the tub thoroughly and fill with strong brine, letting it stand a week or more before packing the butter. The brine should be so strong that salt will remain undissolved at the bottom of the tub. I use no saltpetre; preferring pure salt to rub on the inside of the tub before putting in the butter. I treat tubs from which the butter has been used in the same manner; washing them thoroughly before filling with the sour milk. M. M. B.

Putney, Vt., Nov. 7, 1870.

For the New England Farmer.

CULTIVATING AND KEEPING ROOTS

One method of agricultural progress, and a very good one, too, is by the perusal of agricultural publications, another by experiment, and a third, and by no means insignificant means of advancement, is by observation.

I am in the habit of raising a quantity of roots every year for feed; consisting this year of mangolds, carrots, parsnips, and Swedish turnips, comprising about three-fourths of an acre in all. On one side of the piece, but at the ends of the rows, was a ridge from one and a half to two feet higher than the ground occupied by the roots. In July, when the beets were about two inches through, I had occasion to level this ridge, and in so doing filled in between the rows a distance of about two feet from the ends, and from three to six inches deep, covering some of the beets and carrots up around the tops. There were two kinds of mangolds, two of carrots, two of turnips, and one of parsnips. On harvesting, it was found that on the two feet of the rows so filled in, the yield was double, by actual weight, that of the same distance on any other part of the row, with one exception, that of the long orange carrot, where the difference was not as great, owing, I presume, to their growing entirely below the surface at all times.

Now the query is, will it pay to hill up root crops like potatoes, or must it be filled up between the rows and kept level, as was the case with these? Would it have had the same effect if the season had been wet, instead of dry? I have observed also that the mangolds that were filled in are as tender and good to cook as the table beet, and those not so treated are a little more stringy, though not very much so.

Speaking of the quality of beets, or any other vegetable, for that matter, I am led to express an opinion which is at variance with that of most writers, and I presume that of the Editor of the FARMER, viz: that, one year with another, early sowed or planted vegetables are the best in quantity and quality, turnips excepted. I know that Mr. Gregory, and all seed men, recommend sowing the mangolds, carrots and also table beets, for winter use, the last of May or first of June. I have been experimenting for ten years, and I now plant all such things as early in the spring as I can get the ground in good condition. I leave the roots in the ground as late as possible, then store in a cool dark cellar, and I have as good vegetables as one can ask for. In 1869 I sowed table beets the 22d of April, and had some of them the next year, when new beets were large enough to cook, that were almost as tender as the new ones. For spring and summer use, I bury some in the fall, and in the spring take them up and pack them in a box, with moss, and they will keep until new ones come. Turnips and carrots can be kept in the same manner. Some contend that the expense of cultivation is greater when sown early, but if the land was properly tilled the previous season, there is but little difference, or at least so thinks OBSERVER.

Oak Hill, N. Y., Nov., 1870.

SAVING MANURE.

Our correspondent, J. M. Crafts, Whately, Mass., writes as follows to the *Boston Cultivator*:—

For the last ten years, I have not allowed any waste, from water or wind, of my manure, as I have carefully housed it *all*, and have endeavored to save the urine by means of absorbents, placed in a trench behind my stock; using, more generally, peat muck for that purpose; sometimes I have used sand. The quantity and quality of the manure thus made is about in the same ratio, say, one multiplied by ten. Antediluvians thought, and plainly told me, that "I should spoil my land by using *so much muck*; it would *sour* it all up." But I have lived to see some of these same men drawing muck of late years, and using the same quite freely. It has, however, been attended with a good deal of labor—the supplying of the trench every day—and I have been casting about for some easier method of accomplishing the same result with less labor. I have just completed a new stable, 15 by 40 feet, making room for nine head of cattle and two horses. Underneath I have a basement room—above ground—that is the same size of the stable, and about eight feet high; a wall of stone surrounds it on three sides, three and one half feet high, on which rest the sills of my barn. The whole cellar is enclosed and warm, so that I hope to prevent the manure from freezing in the winter.

The bottom of this cellar is covered with old brick, laid flat ways down, and a little apart, and then covered and completely filled with hydraulic-cement mortar, made so soft that it would easily fill every crevice between the bricks, and the coating will vary from one-half to one inch on the top of the brick; the wall is pointed with the same material. This is done to prevent the pigs from rooting the bottom of the cellar all up, and to retain, to an extent at least, the urine not taken up by the peat and other absorbents supplied. I have now four pigs busily at work on the pile, and so far I am pleased with the results of my labors, and I hope to make more manure, and better, than I have ever done before. When I have proved it, I will give the results.

—Horses, it is stated, are among the articles in Paris which have been most greatly depreciated by the siege. At the fashionable horse bazaars, animals which before the war brought from $300 to $1000, are now selling as low as from $8 to $40.

A DAY AT "INDIAN HILL" FARM.

SOME four miles from the city of Newburyport lies the above farm, which derives its name from a large swell of land which was called "*Indian Hill*," in the deed given of it in 1650, by "Great Tom," to the town of Newbury. This hill was subsequently deeded by the town to John Poore. It has since been handed down from father to son, and the present owner is the *seventh* proprietor, and is the able and widely-known correspondent, "PERLEY," of the *Boston Journal*.

The view from the top of the hill is extensive, when the weather is clear,—the panorama including the ocean from the Isle of Shoals to Cape Ann, and the lower portion of the Merrimack Valley.

On the apex of the hill is a well, some eight feet in diameter and ninety feet deep. Near this is the form of a masonic lodge, laid in green turf, in memory of the ancient brotherhood who were accustomed to meet on the top of a hill.

The homestead embraces about 200 acres, and there are about the same number of acres of outlands, in pastures and woodlots. The father of the present proprietor, Mr. Benjamin Poore, was a merchant in New York, but always passed his summers in the old homestead. Visiting England in 1830, he had plans made of the old family place there, and on his return had an oaken frame building, erected in 1650, re-modelled and changed so as to reproduce a British yeoman's rural home. To this he added a barn, the lower story of which is of stone, built on the Scotch plan, with a reservoir for the wash of the yard and stables, with the waste water from the house. This barn holds about 150 tons of hay, and is this year almost full.

Mr. Benjamin Poore was associated with Timothy Pickering, E H. Derby, Gorham Parsons, and others, in the formation of the Essex County Agricultural Society and was a member of the Massachusetts Society for the Promotion of Agriculture. He reclaimed and thoroughly underdrained large meadows, and his herd of white Short-horns is still kept up by the purchase of young thoroughbred bulls as they are needed, thus avoiding breeding in-and-in.

In 1845, the Massachusetts Society for Promoting Agriculture, awarded a massive silver tea urn to him, for "the best-managed farm," and he obtained many other premiums from the county society for farm products and stock.

Major BEN. PERLEY POORE, who in turn inherited Indian Hill, has been, and still is, very much occupied in literary pursuits, and resides on the farm only a portion of the year, but manages not only to keep up its former productiveness, but to make many and very substantial improvements. Having been required, when a lad, to plant forest seeds and acorns, some of which are now large trees, he has given especial attention to arboriculture. His plantation of twenty-five acres, which has recently been awarded the *one thousand dollar* premium by the "Massachusetts Society for the Promotion of Agriculture," demonstrates that forest trees can be grown on the bleak hill-sides of New England, reclothing them, ameliorating the climate, and causing dried up springs to gush forth again.

In this plantation there are twelve varieties of oaks, with maples, ash, locust, fir, pine, larch, and other varieties. The land upon which the forest-plantation is located is quite high, being a portion of three sides of the "Indian Hill" itself. Winding in graceful curves around its sides, are pleasant foot paths for pedestrians, and comfortable carriage-ways for those who do not care to climb so high. The trees composing the plantation are all from seeds planted by the proprietors of the land,—by Maj. Poore, or by his father. Some of the oaks and chestnuts are now nearly, or quite, seventy-five feet high, and in the most thrifty condition. A row of chestnuts of this character border the north side of the garden, sufficiently near to protect, but not to overshadow the smaller plants.

In rambling over the plantation, we noticed a great difference in the size of the same kind of trees, and was surprised to learn that this difference was the effect of *shelter*. Numerous instances were then pointed out where oaks and other trees were three or four times as large as those set at the same time, but in exposed places.

The farm, as a whole, is a fair example of what thorough drainage, protection, and careful culture will accomplish. The fences are good, and the land under them is clean, the fields—though the harvests had been gathered from them—indicated high condition. They were broad, clean and productive. All the cattle of the farm are white Short-horns, and possess the fine points of that famous breed. A few sheep, together with a variety of poultry, gave animation to the scene, and were the source of cheerful hopes in a gastronomic point of view.

The dwelling is unique. There is probably on other like it in the country. It is in the form of the segment of a circle, flanked at the points by a round stone building. A porch over the main entrance to the centre building, is sustained by large cedar posts, with the bark on them, and the whole front is overrun with the Tennessee or some other climbing rose interspersed with creeping plants that flower at different times. The internal arrangements are as unique as the external. The broad hall, with its galleries, and four parlors opening into each other in a circle, remind one of the halls of the ancient barons which we read of in the novels. But it is the circular stone building on the south of the structure, where the *genius loci* may mostly be found, among rare paintings and books, Indian relics, and relics of men buried 3,000 years ago, armors of Spanish Knights, Salvos from Damascus, ancient records of agricultural practices, and more than 15,000 autographs of distinguished persons!

In order to keep fresh in the memory some of the modes of living, the furniture, crockery, clothing and domestic utensils of his ancestors, he has several apartments filled with all the appliances of their day, from the kitchen fireplace to the bed-room and parlor. Most of these articles were the property of the occupants of the farm, and have been handed down with jealous care from one generation to another.

Pleased as we were, however, with the forest and the farm, nothing was so gratifying to us as the spirit which animated the domestic life of all, parents, sisters and children;—that domestic life which is—

> —"friendly to the best pursuits of man,
> Friendly to thought, to virtue, and to peace;"

those loving and loveable hearts, that

> "Brighten light,
> And give back sunshine with an added glow."

HON. HORACE CAPRON'S ADDRESS.

We have read with much interest the address of the present head of the Agricultural Department at Washington, delivered at the Cotton State Fair and Agricultural Congress held in Augusta, Georgia, during the last week in October. It was so pointed and practical, and contained so many homely, old fashioned truths in respect to the true causes and foundation of national as well individual prosperity and wealth, that we have been a little curious to see how it would be received by the Southern people.

The *Home Journal* of Lexington, Ky., says "it was full of timely suggestions, and was well received," and gives the following synopsis of the address:—

He urged the importance of manufactures. With the abundant fuel and water power found throughout that section, the greater portion of the cotton crop could be manufactured, at least, into yarns and coarse fabrics, and many millions of profit saved to the South that has heretofore been lost to it from the absence of this lucrative industry. England and France make one dollar's worth of raw cotton yield three, and the Southern factories could, in time, turn out all the goods for which they have now to send North. These ideas have been repeatedly set forth in this paper, and the notable success of the manufactory established at Augusta—two-thirds of the capital of which has come from its own earnings—proves conclusively that such enterprises are practicable.

There is no reason why a single pound of sugar should be brought from abroad, for, although our home production last year was not ten per cent. of the consumption, Louisiana alone has suitable lands of sufficient area to supply the present wants of the country. The fruits which grow in the fertile South are of such wonderful variety, the products of which show so largely in our imports, should add annually millions of dollars to the wealth of that section and the country. The cheapest beef and cheapest wool produced in the country, are now, as the statistics show, the product of the grasses of the Gulf States.

Mr. Capron also urged upon the Southern people the benefits that would result to them from a system of mixed husbandry. If more grain were raised and less cotton, they would be better off, for it is an established principle that men grow rich by what they make, and the opinion was confidentially expressed that the time would come when the products of cotton will be all surplus, other products paying the expenses of the farms. He encouraged also a restorative instead of an exhaustive system of agriculture, the use of fertilizers, judicious rotation and a course of grasses.

The *Home Journal* also says that the "Congress," consisting of delegates from agricultural and other societies, was organized by the selection of Hon. Herschell V. Johnson as president, and adds:—

Speeches were made by representative men from all the late slave-holding States, setting forth the advantages and capacities of that section, and the necessity, not only for a wider range of production, but the feasibility and profit of manufactures. Committees were appointed for practical work *ad interim*, and Selma, Alabama, designated as the place for the next meeting.

This Congress was a gratifying success, and, in our opinion, its meetings will give a needed impulse to the development of the agricultural and industrial resources of the entire South, and direct the awakened enterprise and energies of the people there so as to lead to the best results.

There is no good reason why the South should not, with all the people working to one end, with its high capabilities of soil and climate, with new and improved modes of culture, and the opening up sources of profit hitherto unknown there, prosper in the future to a greater degree than it ever did in the brightest days of the past.

LOSS IN WHEAT RAISING.—New England farmers who have to figure pretty closely to find a profit in the result of their farming operations during the past year, may, perhaps,—on the principle that "misery loves company"—experience a sort of melancholy satisfaction in comparing notes with those who till the rich soils of the Western prairies. The following "account current" is furnished to the *Prairie Farmer* by a Missouri farmer, with his wheat crop on four and a half acres, on which "New York Premium Wheat" was drilled in, September 2, 1869:—

Ploughing, say		$7 00
Harrowing, say		2 00
Drilling, including hire of drill		3 00
Seed		8 00
Reaping, say		4 00
Binding and shocking, say		4 00
Stacking, say		4 00
Thrashing		5 00
Interest on value of land and taxes		21 00
Hauling 75 loads manure, applied before harrowing		27 00
Total expense		$85 00
Credit by 75 bushels by thrasher's measure, sold chiefly for seed, and remeasured only 71 bushels		$84 00
Loss		$1 00

For the New England Farmer.

POULTRY.

Best Breeds, Care, Management, Profits, &c.

An Essay read before the CONCORD FARMERS' CLUB, by BENJAMIN W. BROWN, Nov. 3, 1870.

There seems to be no branch of domestic economy less understood by farmers in general, than that of profitably raising poultry. Perhaps, if we look into this subject a little, we may ascertain some of the causes of the unprofitableness complained of, and more especially by those who keep poultry in small numbers.

Most people think that fowls must pick their own living around the house and barn, roost in an old shed or out in the open air exposed to storms and wind, and yet yield a good supply of eggs. I have found that fowls which have to roam about all day in search of food, have little time or inclination to lay eggs; and any one who expects to realize profit from poultry managed in this way, may as well expect to get rich raising asparagus, strawberries, potatoes, corn or vegetables, and not take any care of them.

I would like to ask any one of those gentlemen who finds fowls so unprofitable, if he would expect his cows to be a source of profit if allowed to run at large, in the highways, and get a living as best they could; or his swine to fatten if not taken care of and fed regularly; or his horses to perform daily labor; or even to do a day's work himself, if treated in such manner as he is wont to treat the fowls? Many people labor under the impression that because the fowls find a few flies, worms, &c., to feed upon, they will get their whole living in this way, and be a source of profit besides. But I have found that in order to pay well, fowls as well as all other domestic animals, must be properly cared for and fed.

One complaint is that they destroy everything about the garden and house, and are a trouble in many ways. In answer to this, I should say, give them a place to stay in, the same as you do your cattle and horses, and they will not trouble your garden. The whole secret of success is in giving poultry plenty of feed, both grain and flesh. During the summer months they will provide themselves with animal food, but in the winter months they should have plenty of meat of some kind.

Best Breeds.

This is a question on which there is a great diversity of opinion, and I have hardly found two persons who agreed. I have had several different kinds,—the old fashioned small hens, the White Dorkings, the Black Spanish and the Brahma Pootras, and am well satisfied that for laying, rearing young and for the market, the Brahma Pootra fowls are the best.

The White Dorkings are very good layers, but do not grow as large as the Brahmas. Having heard a great deal about the Black Spanish fowls as good layers, I purchased two of them, and in one year I was satisfied that they would not do for me. They did not commence laying until nearly spring. They are very small fowls and lay small eggs. They would never roost with the rest of the hens, but get as high up as possible, and I could not keep them in my hen yard, where the rest of the fowls would never get out. When dressed for market their flesh is very dark colored, and anything but inviting to the eye.

A great objection urged against the Brahmas is that they are more inclined to set than any other breed. It is possible that such is the case; but I found last winter that my Brahma pullets laid more eggs than any kind I had, and wanted to set more also; but I found that I could break them up in two days, and they would go to laying again, while the other kinds would not commence laying again for a month or more.

In the market no one can deny the fact that the Brahmas are the best, for they grow very fast, and when dressed are yellow and look very well indeed. Another advantage is that

when they are sent to market, instead of weighing six pounds a pair, as the Black Spanish and other small breeds do, they weigh from twelve to fifteen pounds per pair.

Of the other kinds of fowls I know but little, except the Houdans, which are noted for their good laying qualities, and also for their not wanting to set often, though in size they do not compare with the Brahmas.

Feeding Poultry.

My method of feeding fowls is as follows. In the first place, I keep grain by them all the time; for I have found from experience that they will eat much less when fed in that way, than when fed twice a day all they will eat. I have a trough or low box, with slats nailed across the top so that they cannot get into it and scratch the grain out. This is kept filled with corn and oats during the winter; and about twice a week give them wheat screenings, which I have found excellent food for laying hens. Oyster shells should be pounded for them every morning, and from a cake of pork scraps, kept by them, a small quantity should be chopped off for them every morning. Fresh water should be kept by them all the time; and in cold weather it should be warmed. By this method of feeding about five minutes or less a day are required to take care of them.

The Hen House and its Appurtenances.

The boxes for laying should be large enough for one hen only, and should be covered if possible, as a hen when laying will get out of sight if a chance is given her for doing so.

The roost should be in one corner, and I have a floor underneath so as to catch all the droppings, and once a week take them all up clean. The result was that last spring I had hen manure enough to plant two acres of corn with, which I considered worth more than the same weight of superphosphate, or any of the special manures in market.

I have a small room partitioned off in one end of my hen house for a sitting room, and when I wish to set a hen, I take her, in the evening, from the nest she has been laying in, and place her carefully on the nest she is to set in; and in nine cases out of ten she will set without any difficulty.

A hen house should be built with a row of windows on the south side, so as to admit the sun in the winter, and a hen yard of suitable size should be built on the north side of the building, so that they may have a cool place in the summer.

A great mistake is made by crowding too many hens into a small place. The building which my hens occupy is 32 by 17 feet, and I consider 50 hens a large number to keep in it.

To avoid vermin, which hen houses are apt to be filled with, I white-wash it thoroughly, taking great pains to wash the roosts, as the vermin are more apt to be found there than elsewhere.

In order to show those persons who think the raising of poultry unprofitable, that it can be made profitable, I will give you an account of my poultry kept in 1869. I commenced January 1, 1869, with

	Dr.		Cr.
45 fowls, at 75c . .	$33 75	Poultry sold . . .	111 27
1 turkey	1 25	Eggs " . . .	64 56
Paid for grain . . .	62 00	40 fowls on hand, 75c	30 00
" meal	8 37	2 turkeys, at $1.25	2 50
" scraps	3 58		
" potatoes . . .	8 25		$208 33
" 1 calf	1 25	Subtract cost . . .	113 45
	$113 45	Leaving for profit .	$94 88

I have given no credit for poultry or eggs used in the family, which would amount to quite a large sum; nor for the manure, which you will see was worth something by the statement previously made.

I am convinced that with more care, I could have made 50 per cent. more, and there is a gentleman in this neighborhood, not a member of this Club, who could make a showing in regard to his poultry for the last year, that would put my statements all in the shade.

Of the management of chickens, I shall say but little. I prefer to have them hatch out quite early, as soon as February, or else quite late, as I have found that they generally pay better. Have most always had good luck in hatching, but lose many by disease or something, before they mature.

I wish to state that my account of poultry kept in 1869, was not any guess work, but taken from actual figures put down from day to day, which any gentleman in the Club may see, if he desires to do so. Any person who will try the raising of poultry, conducting it in a proper manner, and not make it a source of pleasure and profit, will be an exception to the general class of people.

For the New England Farmer.

DEEP AND SHALLOW PLOUGHING.

Most all of the agricultural papers in our land have correspondents who advocate "deep ploughing," but very few recommend "shallow ploughing." Is it because deep ploughing is the exception and shallow the rule? Having had experience in the matter, I have decided that deep ploughing, as a general practice, is detrimental to the interest of the farmer.

In the year 1865, I manured very heavily four and one half acres of sward land, which had been in grass five or six years as pasture or mowing. The soil was a clay loam with a heavy clay subsoil. Having a strong team, the manure and sod were covered to a depth of six and a half or seven inches, being one inch and a half deeper than it was usually ploughed. It was planted with corn about the 15th of May, with well rotted manure in the hills. With such liberal treatment, expectation ran high as to the amount of corn I should get; but disappointment came. The corn grew

very slow, and some of it never attained a greater height than one and a half or two feet, and the consequence was, it did not average more than 35 bushels per acre, whereas, my opinion is, that if I had not ploughed more than five, or five and a half inches, I should have had at least 60 bushels per acre. The oat crop the following season (1866) was very light indeed; not more than one-half what I usually got, when manured so thoroughly. The following year (1867) it was mowed, but the crop was very light. The years 1868 and 1869 it was pastured, but the feed was not very abundant, having usually pastured one full grown creature to the acre on such land. This year it was mowed again, and gave a tolerable crop of hay. I think the land will recover its former fertility in time, but the loss has been too great.

I had much rather plough five to six inches, and run the subsoil plough four or five inches deeper. This I have done on 19 acres of these clay lands with great success, improving both grass and grain. I think manure covered not over five to six inches deep will give the greatest benefit to the corn crop, as corn roots grow near the surface.

My corn this year was planted on a yellow loam soil, ploughed five to six inches, and during the most severe drought I have not observed that the leaves have curled in the least, and it is a most excellent crop, with the larger part of it good seed corn. Gravelly and sandy soils may be benefited by deep ploughing, as they are more easily affected by drought.

I am aware that I am running counter to the opinion of many men upon this subject of deep ploughing—some of them theorists, perhaps, and some of them good, sound, practical farmers. I do not wish to mislead any one in the matter, but let every farmer test the matter by experience, and judge for himself.

JAMES CHILDS.

Deerfield, Mass., Oct. 17, 1870.

DEVONS FOR ALL PURPOSES.

It is fashionable, on our Illinois prairies, to praise the biggest cattle as the best, and the thoughts of most of our stock-improving farmers are turned to Durhams and their grades as the most desirable cattle. Possibly where beef is the only object, and corn and grass are far away from towns and railroads, and cheap, so that an extra ten bushels of corn or half an acre of grass are hardly worth the reckoning, these may be the best cattle.

But if one wants to get the animal combining the best milking, beef and working qualities for the smallest expense, he should get the Devon. Ten or twelve years ago, desiring to improve my herd of cattle, I was induced to look into the question of the most profitable cattle for the region and latitude of St. Louis. Here is a market near at hand in which all kinds of cattle feed bear a fair price, making economy in feeding a point to be looked into more carefully than it has been on our wasteful grain farms. During the later summer, we have often severe droughts and short pastures, so that heavy feeders require a large acreage for their sustenance. Looking at these points, even if we concede that, with high feeding, the Short-horn is the best, we must prefer the Devon for the common ways of common farmers. But experience goes to show that the smaller animal on the thinner lands will glean a better sustenance and get in better condition, other things being equal, just as in spring, sheep and young cattle will fill themselves from the young grass before the larger animals are able to do so. Over and above this, we may believe, from the experience of those who have bred the Devon and Durham side by side, that there is more assimilation of food and less offal in the Devon, so that a pound of beef represents a smaller amount of feed in the Devon. This, I think, is the observation of Col. Horace Capron, our present Commissioner of Agriculture, who has fed the two breeds together. I have not enough experience to pronounce a definite opinion, but I am told by a feeder that some half grade Devon steers which I sold him fed more satisfactorily than the common cattle of the country or grade Short-horns. Fat steers, I find, agreeably disappoint the purchaser whose eye judgment has been formed in the examination of the more leggy and less compact bullocks of other breeds. The beef is better and worth more in the markets than that of the Short-horn, or for that matter, of most other breeds. Several years' experience in the use of the beef of grade animals satisfies me that it is more generally good, animal after animal, than that of other cattle, and most desirable for the farmer who slaughters his own beef. The smoothness and uniformity of the steers impress the purchaser favorably, and make them fancy lots in the markets. Their weak point, if they have one, is a less early maturity, whereby they may not attain a sufficient size at as early an age as the Short-horn.

As milking animals, I find them very satisfactory. The quantity of milk is not the largest, but is nearly as rich as that of the Alderney, and makes butter of equal excellence, though not so high colored. Taking quantity and quality both under consideration, I do not find them inferior to any breed that I have seen or heard of. They are kind, loving animals, like to be petted, but impatient of abuse, and make reliable and gentle milkers. I noticed that Mr. Allen, in his late book on cattle, commends the capabilities of the breed in this respect, as well as others, as among the best.

For a working animal—and I still have faith in the economical value of work-oxen on our large farms at least—the Devon steer's merits

are conceded. He is quick, enduring, and spirited; and were it not for the difficulty of procuring good specimens of that almost obsolete race—in this part—the ox-driver, I would commend him to all concerned. Worked until about eight years old and then fatted for beef, he makes a profitable animal to the grower.

Beyond these points of merit, I find the Devon a hardier animal than any other of our cattle kind—hardier even than our natives. He endures extremes of cold and heat with an equanimity that his great vitality alone accounts for. The Durham requires special attention to endure our cold winters, and does not thrive in the drougth and heat of our summers, but the Devon goes through all, hearty and thriving.

In face of all these facts, it must be conceded that the Devon is not the popular breed. His well-balanced merits of beauty of form and color, excellence of beef, richness of milk, and superiority as a work animal, do not seem to tell against the bigness of the Short-horn. Just as the popular and superficial choice fixes upon the bigness and bright color of fruits as criteria in selection and purchases, "Big Romanites" in preference to Newtown Pippins, and Concords instead of Delawares, so I sometimes think the big and clumsy draught-horse and the large and artificial Durham are preferred for the very insufficient reason of superior size.

But for many, perhaps most, parts of our country, I am strongly inclined to think that the common farmer who grows cattle for his own use and to sell in the markets, and who is not doing a fancy business in taking premiums at fairs and selling over-fed calves at exorbitant prices as breeders, will find the Devon a more profitable animal than the Short-horn. I am afraid it may be considered very heterodox, possibly blasphemous, to say so, but such is the drift of my conclusions thus far, after some experience and some observation.—*W. C. Flagg, in Hearth and Home.*

SHOEING HORSES.

If the shoe does not sit perfectly level all around, and if it extends so far outside the hoof that the nails are prevented from entering the crust in the exact spot, and in the very direction, which they should, there will be a constant straining on the nails, which is injurious to the foot, and will be liable to chip pieces off the hoof. The shoe ought to be made wide across the foot, at the point where the two front nails are situated. The greatest mistake frequently lies here. In place of turning the shoe, at the toe, very carefully on the horn of the anvil, the smith generally sets it up on its side and then strikes it with his hammer. The consequence is it yields at the centre of the arch, and, instead of being nicely and regularly rounded in front, whilst the breadth from side to side is preserved, the nail holes on each side are brought nearer to the centre of the shoe than they ought to be. As a necessary result, the shoe at the front nail holes is too narrow for the hoof, and, when it is nailed on, the crust presses injuriously on the internal sensible parts of the foot. It is difficult to convince the smiths of the possibility of laming a horse, by having the shoe too narrow in front. They generally think the whole difficulty lies about the heel.

In putting on the shoe the nails should be driven with a gentle hand, and they ought not by any means to be clenched very tight. Hard driving and tight clenching will bend the hoof, at the place where the clenches are turned, inwards and downwards towards the shoe in such a manner as to injure the tender parts contained within the cavity of the foot. Besides, it is not necessary for a man to forget he is working with the foot of a living animal. The shoe will remain on a sufficient length of time with gentle driving and clenching, provided it is properly fitted to the foot. If it has a thoroughly even bearing, there will be little stress on the nails. The nails are often made so coarse that they split the hoof, and thus keep it constantly broken. A fine nail will answer all the purposes required if it is made of the right sort of material.

We know of no worse fashion, in connection with the application of the shoe, than the one which the smith has, of hammering the shoe on the one side or the other after three or four nails have been driven, for the purpose of putting it straight on the foot. This is a speedy method of making up for his total want of accuracy in placing it at first; but it should never be suffered to be practiced. It strains all the nails which have already been driven, and is thus calculated to do serious damage to the foot.

Shoeing has been regarded by some as a necessary evil; still we are certain, it is an evil in the horse or in the man only when it is improperly performed. We are confident in both cases it would be advantageous, rather than the reverse, if the artisan could always be made sufficient acquainted with the theory of his profession, and had hands, or rather a head, for its due performance.—*Pra. Farmer.*

For the New England Farmer.

MANAGEMENT OF PASTURES.

Water.

During the winter months the need of water is evident, and many farmers are at great expense to provide it; but in summer, it is much the custom to depend only upon natural supplies.

Fortunately the springs and brooks in New England are so abundant that the majority of pastures are well provided, and it is only left for us to consider how to remedy the deficiency in a few exceptional cases.

Some springs that run abundantly in spring and fall, dry up in mid summer. In my own pasture a spring stopped, and the earth that was trodden around it by cattle, showed no surplus moisture, yet by digging a few inches a clear stream came bubbling up, and a little more digging gave a good supply.

The owner of a very dry farm in my neighborhood set his man to digging in a place where the mud showed symptoms of a spring. Immediately a spring was released that has ever since furnished water sufficient to drive two hydraulic rams, by which water is propelled to two dwellings. In order to get the required fall of water, a curb was made around the spring, of stone laid in cement. This, filled to the top, gave three or four feet fall.

If there are no springs that can thus be improved, surface water can be held in reserve in pools and cisterns. In most pastures there are low depressions, where the surface water naturally accumulates. A pit ten feet square with the sides of plank, backed up by blue clay, or the sides plastered with cement, would hold a supply for a small stock through the summer. If stock visit the barns at pleasure, the roofs will furnish water, if it is properly directed into cisterns, from which it may be pumped as needed. Wells also can be dug—if shallow, let them be large so as to hold a good supply.

Stock, in a dry pasture, that are driven some distance to a brook every day will rarely keep in good condition. They become uneasy, and the care of them will be a tax upon the owner's time. Any pasture in New England can be supplied with water.

Stock for Pasture.

The best stock to keep a pasture in condition is, doubtless, sheep, as they lay upon the elevated portions, which are speedily enriched by their droppings. The lower portions, which are grazed during the day, are naturally richer, but will receive a due proportion of manure.

Next to sheep, are full grown cattle, fed for beef, that lie day and night in the pasture. Young cattle take more from the nutritive elements of their feed than beef cattle, because their bones are growing as well as their flesh.

Dairy cows soon get the habit of coming to one part of the pasture at milking time, and if they are not removed from the pasture at night, their droppings accumulate and make a a portion of the pasture uselessly rich. If the droppings are shovelled up into heaps, and some soil added each day or week, there will be a load or two of manure from each cow in the dairy, during the season. If this fertilizer is carted back into the pasture and spread in the fall, it will increase the feed or improve the pasture. If, in addition to this, the part of the pasture used for a milking yard is plowed and sown to corn for fodder, and another yard fenced out, doubtless the top dressing and fodder-corn would improve the pasture steadily.

Horses alone are the poorest stock for pastures, as they are dainty feeders, leaving coarse grass and bushes, and their droppings are of but little benefit to the turf. Steady work horses can profitably be pastured with cows, as they graze by the hour near the bars, where the rank feed is refused by the cows. Colts are apt to chase cattle and sheep at times. To get the greatest profit from a pasture, mix the stock in about this proportion: ten cows, one horse, and five sheep.

Fences.

Pasture fences should be such as to secure any stock. In some parts of Massachusetts, New Hampshire, and Rhode Island, a single wall surrounds the pasture, and although sheep would be the most profitable stock where lamb is twenty-five cents a pound, yet sheep cannot be kept secure by a slight, imperfect wall. If stakes supported a rail above the wall, it would be better, or a board nailed to posts in the wall. I have seen miles of wall that was nearly useless, as its security is measured by its weak places.

Cedar rails, laid up Virginia fashion, each two lengths forming the sides of a triangle, make a good fence, if the work is well done. Where durable wood for posts can be cheaply obtained, a board fence is satisfactory, if it be "pig tight, bull strong, and horse high."

Shelter and Shade.

In most pastures, there are trees that give shade, but in the cold rains of spring and the bleak winds and early snows of autumn, stock should have shelter. Colts, sheep and young cattle are not usually confined to the farm yard until winter is fully come. As they stand curled up by the fence during a cold, pelting rain, they are very uncomfortable, even if they do not contract disease that will show itself during the winter by a cough, running nose, and general debility.

Build a shed in the pasture, in a poor portion if convenient, and have here the salt trough, also a place to feed grain. Have the building so made that it can be closed, so as to control the stock, whether colts, cattle or sheep. If mostly closed, it will be darkened, so that there will be less trouble from flies in summer. Such a shed will be voluntarily used by the stock,—they will hasten to it in the storm, and will linger there during hot days. The adjoining portion of the pasture will be improved, and if bushes or brakes are abundant, they will diminish. The stock will be more gentle and be more easily controlled, a fact that will be appreciated by farmers who have been worried by wild colts, sheep and young cattle. Such a shed can be cheaply made, by setting posts in the ground and boarding upon them and making a roof of boards.

J.

RURAL EMBELLISHMENTS,

As a Means of Making our Homes and Neighborhoods More Attractive.

A taste for the beautiful should always be associated with a taste for the useful. It often happens with farmers that a piece of work may be left so as to be attractive to all who see it, and yet cost no more than it would standing as a deformity in the landscape. But, if it *costs* something, the beautiful should be one aim of the farmer in many of his operations. He values it in his oxen and cows, and especially in his horses. He takes pride in the lawn-like appearance of his mowing grounds, in the exact lines of his corn-fields and stone walls, and the furrows turned up to the sun and air.

Some farmers see all these with a glow of satisfaction, and yet live in the midst of disorder and decay. In his symmetrical animals he discerns a *money return* for the beautiful, but when that glittering bauble is not promised, the beautiful vanishes and there is no use in it! The taste has not been educated to cherish what is considered beautiful only in a few things. It sees beauty and order, only in those matters which minister to *pecuniary* gain. In the fine symmetry and action of a horse, it seems to realize future bonds, or shares in banks or railroad stocks. But the most beautiful rose that ever bloomed, or graceful woodbine which creeps over rocks and mounts trees to bring its scarlet berries to the sun, never kindled in him the emotions that were awakened by the prospect of an advantageous sale of the beautiful horse!

God gave the flowers and all plants a great variety of form and color. They might just as well, for aught we can see, been just alike in shape, so far as mere subsistence goes. But He saw fit to make his works beautiful as well as beneficient.

What can be done by farmers to make their homes and neighborhoods more attractive?

It is cheap and easy so to embellish our homes as to give them an air of taste and thrift and render them attractive. If the house has no paint, it may have a grape vine or climbing rose over the porch or a window. If some panes of glass are patched, the defect may be screened by a blooming heliotrope, fuschia or verbena, in an earthen pot set upon the window sill or hung before the offending defect. If there is no gravel walk to the door, there may be a rose bush or flowering shrub by the side of the cart path to the house, so that the dusty or muddy way be unnoticed in the contemplation of the beautiful flower or shrub.

Indeed, it is not the possession of money or much leisure that will render a farmer's home attractive, but that general appearance of order, good taste and economy which must pervade everything. His fences must be whole and not reeling; his door-yards clean; sink spouts or other offensive objects screened by groups of white pines, and here and there a graceful elm or a majestic maple, standing like guardian angels, with outstretched wings, to protect from summer heats or winter blasts.

Any person who can manage a farm has all the requisite skill to beautify it as far as our proposition goes. He will not confess that he does not know how to transplant a shrub, a vine or a tree. Hundreds will say they *have not the time!* Is this so? In our judgment every person has the time—farmer, mechanic, judge or minister. Few farmers say they have not time to *attend an auction*, where the cast-off trumpery of several generations is to be sold; or to bring home a wagon load of rubbish to increase that already about the doors, or torment the women by adding it to the stock already deposited in the garret!

The pleasure of making our homes attractive should be a gradual one. That pleasure is too valuable to be gratified lavishly. A little should be done, and well done, each year, and whatever is commenced be carefully attended to. The autumn of the year affords an excellent time to make a beginning. Suppose such had been the practice of all the farmers of the town in which you live for fifty years past, would not the town now present more rural attractions than any other in New England?

The first step to take is, utterly to abandon the old maxim, that

"Money makes the mare go,"

and learn the higher and nobler truth, that

The *beautiful* makes the *soul* grow.

But if acquisition of money is the prime object, that accumulation will be increased as the real beauty of the farm is increased; for profitable crops come from high culture, and high culture makes the earth blossom and become beautiful.

If circumstances require a sale of the farm, that which is most attractive in its general features, will usually command more money than one in a slovenly condition, although producing excellent crops.

The scenes of early life are usually deeply impressed upon the mind. If agreeable and attractive, they were the nursery of a patriotism that never dies, and so the *beautiful* pleases the eye, cultivates the affections, increases our wealth and makes us lovers and defenders of our country.

AGRICULTURAL COLLEGE BOYS.

We copy the following statement from the College Department of the Amherst, Mass., *Record*. It is encouraging that members of the Junior Class should succeed in securing seven of the eight prizes offered by an agricultural society for best essays on farming subjects; but is it not discouraging to contrast the sums they received, with those secured by the owners of fast horses? Is it an honor to the managers of our agricultural fairs that a horse's heels should be valued at more hundreds of dollars than a man's brains are at single dollars? "But the trotting draws." Yes, sir, it is drawing and will continue to draw the indignation and contempt of thoughtful and moral farmers.

The Hampshire Agricultural Society have awarded eight prizes for the best essays upon "Special and General Farming," seven of which were given to students of this College, and one to a gentleman of North Amherst. Mr. R. W. Livermore received the first prize for both classes of essays, $4 each; Mr F. M. Sommers the second prize, $3 for general, and Mr. J. W. Clark the second prize, $3, for special farming. The three gentlemen above named are members of the junior class. It was not generally known that prizes had been offered, and many of the students had never heard of it until after prizes had been awarded.

STALLIONS FOR COMMON LABOR.

There are very few geldings in France. The reason is, the stallions are not unmanageable, dangerous and vicious work-horses, but docile, obedient, easily managed and intelligent. There is nothing in the nature of things to prevent our having the advantage of the greater toughness, strength, spirit, fearlessness, safety (in being less liable to take fright,) freedom from disease, and longer serviceableness of the stallion over the gelding, were it not that we and our ancestors have so abused the temper of the horse, that his progeny exhibit, among the unaltered males, vicious and treacherous tempers, such as make them unsafe and unreliable as work-horses, even under the kindest and most uniform treatment.

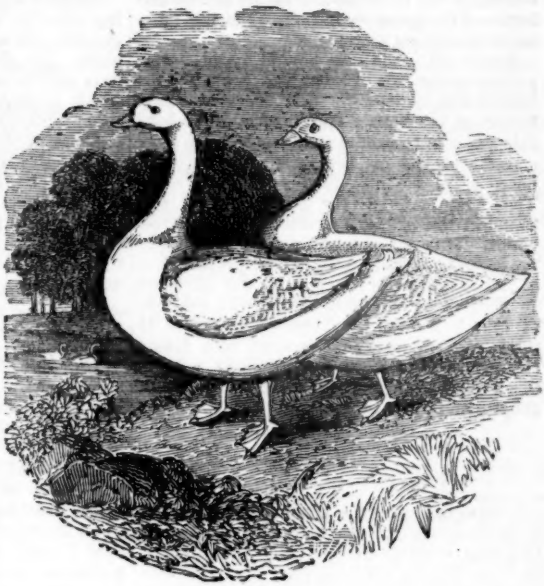
The English thoroughbreds, unexcelled for spirit, endurance, fleetness and wind, are the most vicious of all horses. They came from the gentle, docile, affectionate Arab. and it is only the training and abuse of the English stable boys and grooms, we verily believe, which have thus, in the course of generations, ruined the temper of the most noble of the breeds of horses. Its blood is infused through all our common stock, and to it we owe most of the characteristics for which we value our horses. Where thoroughbreds have been bred for generations under different treatment, as under the handling of the negro grooms and riders of the Southern States, their tempers improve, and extraordinary exhibitions of vice are rare among the stallions. The habit of using stallions is followed a great deal by French Canadians, who send to this country so many of the so-called "Kanuck" horses. These horses are small, close-knit and powerful, and when entire, tough beyond comparison. Wherever we meet with them, they are praised for easy keeping qualities, great endurance, and freedom from ordinary ills, and are seldom complained of as vicious.

Do we not, in our ordinary treatment, sacrifice a great part of the usefulness and serviceableness of the horse, in rendering him intractable, more liable to disease, and less intelligent and spirited? Is it not worth while to make experiments oftener of rearing stallions for labor, though it require more patience, gentleness and kindness on the part of those who handle them, and repeated floggings administered with a will, for any stable boys who dare to pinch or tickle, or to ruffle their tempers?—*American Agriculturist.*

LOOK TO THE INCREASE.

For two or three years past the owners of some of the largest flocks in the country have omitted to breed a large proportion of their ewes. As the supply of fine wool in our principal markets is generally admitted to have been in excess of the demand, such a course may have been a wise one—certainly much better than neglecting the flock altogether, and letting disease and casualties adjust the supply to the demand. But is it the part of wisdom to pursue such a policy any longer? We think not; and would urge every flock master, even though he should desire to still further reduce his number of sheep, to continue to breed all his best animals, and bring about a reduction by selling off the older and more inferior ones. Any other course will as assuredly bring down the standard of excellence in quality of fleece as it will prove detrimental to constitutional vigor, and, as a consequence, increase the cost and labor of handling. Good rams can now be bought for their actual worth, and he who fails, because of any temporary depression in prices, to keep up the standard of his flock, may not realize what a mistake he has made until it is too late to rectify it, or recover from its consequences.—*A. M. Garland, in Western Rural.*

FEATHERS AND FOWLS.



The sale of the meat of fowls at this market during the late Thanksgiving week was not favorable to the interests of dealers, though we understand that farmers generally obtained fair prices for those sold at home. The weather was too warm and the supply too large for the middle-men, speculators or hucksters—whatever may be the name applied to those who buy poultry to sell again—and they will probably be a little more cautious in their purchases next season. But at the present prices of feathers is not the *fleece* of poultry stock an item of profit of more importance than it is generally considered to be by farmers? The other day we had occasion to price feathers at the upholstery stores in Boston, and found the retail price of the best quality of "live geese feathers" to be one dollar and ten cents a pound. The second quality seventy-five to eighty cents, and a pretty coarse article of mixed feathers fifty cents. On referring to the quotations of prices for geese feathers in the NEW ENGLAND FARMER for 1833, we found the price was at that time thirty-five to forty cents. At the same time wool was quoted at thirty-two to sixty cents a pound; flour, $5.75 to $6.12, a barrel; corn, 65 to 74 cents a bushel. With these remarks and the above illustration of aquatic fowls, we leave the subject for the consideration of those who raise poultry and pluck feathers.

WESTERN BUTTER.

Farmers and their wives, at the West and elsewhere, are no doubt answerable for many sins of omission and commission; but it is evident, we think, that they are not answerable for all that are laid to their charge. For instance, the *Prairie Farmer* gives the following account of the way in which much of the poor butter is produced, that is often assumed to be evidence of the carelessness and ignorance of western dairy women:—

Several years ago we were applied to by a large shipper of fat, lard and grease in Chicago, in relation to bleaching and deodorizing rancid butter, suet and tallow. The same individual wished also to become acquainted with the best means of combining fats of different degrees of consistency, so that they would have a uniform degree of hardness. Information was also desired in relation to improved methods of imparting to this mass an artificial color similar to that of grass-made butter.

On pressing our inquiries, we found that this seeker after practical information was the proprietor of a butter factory, and a very extensive one in its way. He was under but slight obligations to fat pastures or "kine with distended udders" for his supplies of the materials that were to be converted into butter balls. A very small amount of butter was used, "just to give a slight flavor to the mass," that was packed into firkins or butter tubs and sent to feed the epicures of Gotham. To the best of our recollection, he stated that his usual shipment of this dainty amounted to two car loads a week. It was sold, he informed us, in New York, as a second grade cooking or western butter. Much of it was disposed of to restaurants, where large quantities of oysters, beefstakes and muttonchops were

served up to customers. The bakers bought largely of this sort of butter, as did the keepers of cheap boarding houses. He mentioned several of the most popular eating houses and hotels of the great metropolis as being numbered among his patrons.

Fat of all kinds was bought by this enterprising proprietor of what was probably the largest and perhaps the first operated butter factory of the west. The cleanest of the hard fats was sold to candle makers, the more dirty and rancid lots of the same class were disposed of to the manufactures of hard soap. The best material for butter making was found in the grease extracted from marrow bones. If it was sweet, and not discolored in the boiling process, it needed little preparation. If the contrary was the case, it was bleached to destroy the color and treated with chloride of lime to remove the disagreeable odor. If it was too soft it was tempered with firmer sorts of fat, as that obtained from suet. After this the desired color was given by the use of annatto and other substances.

For the New England Farmer.

CEMENT CISTERNS.

I was glad to see the article by "N. S. T." on underground cisterns and filters. Among his many good ideas, I find one which experience teaches me is not correct, viz: the idea that a cistern cannot well be made in ground of loose gravel and sand, without brick. I have made many cisterns in such ground; one, since I read his article, in ground which we could dig but about a foot without its caving, and yet we made it about a foot larger at the bottom than at the top.

Some five or six years ago, I made two cisterns in just such ground, seven feet in diameter, and twelve deep, from the top of the ground. They are in a barn yard. I frequently make two or more cisterns and join them together by running a pipe through from the bottom of one to the bottom of the other, instead of having a large one, with a large span of arch. It is cheaper to make a number of such small cisterns than one large one. The arches being small, require less material to make them, besides we get the water nearer the top of the ground, because a large arch has to commence far down towards the bottom of the cistern. What I was going to say about those two cisterns made in the barn yard, was that the man repaired his barns in the fall and did not finish in time for the fall rains to fill his cisterns. I went there in mid winter, and found no water in them, and only a stick of timber over the curbs to keep the creatures from falling in. I went into both cisterns and found the inch or so of water which the pump would not draw out, frozen to solid ice. Of course the walls of the cisterns were all frozen solid. When they thawed out they were as sound as ever.

Now, if the earth had been clay or loam, or if the cisterns had been made of brick, the cement would have been thrown off by the frost.

There is another great advantage in plastering directly upon such sandy and gravely ground. It saves moving a great quantity of earth. To plaster directly upon the earth we have only to move just the quantity of earth which is required for the capacity of the cistern; whereas to make a brick cistern, in such loose earth, we have to dig the whole depth of the cistern and begin at the bottom to lay the brick. To prevent caving, the top has to be dug three feet or so larger than the diameter of the cistern is to be. Then there is the cost of the brick, all extra, for it requires no more, if as much, cement to make a cistern plastered on the earth as one plastered on to brick.

I would not advise an inexperienced hand to undertake to make a cistern in earth which has been lately moved, or in wet ground.

The pipe of the outlet to the cistern should not connect with the sink drain, as the stench will pass into the cistern and injure the water; and should the sink drain happen to fill up below the junction of the pipe, the water from the sink would run back into the cistern.

A word in regard to cement. There is much poor cement in market. One of the worst kinds is that which contains an excess of lime. Such cement usually sets quick and appears hard and good at first, but in a shorter or longer time,—generally within thirty-six hours, the lime begins to slake and crack the cement, and in some cases, crumbles it as fine as ashes. To distinguish this cement, take enough to make a ball about as large as a butternut; wet it up into good mortar and make it into the shape of a pyramid, making the surface as smooth as you can. After it has become set, place it under water and let it remain thirty-six hours. If it cracks and falls to pieces, it is not good, but if it does not crack and the surface remains smooth and polished, it is good. A rough surface indicates inferior cement. Another peculiarity of some cement is that it shrinks slightly in setting, but otherwise it generally makes good hard work. This cement, when plastered on the walls of a cistern, will crack perpendicularly in about five places. When made into water pipe, the pipe will break square off every few feet. I know of no way to test this cement, till it is made into work. Cisterns plastered with such cement are easily repaired, by chiselling out a groove wherever the cracks appear, and filling and plastering over with cement. I never knew one to leak after being repaired in this manner.

There are various other qualities and peculiarities of cement, which require practice to distinguish. Properly managed, they generally will make a good cistern; if not, an additional coat of good cement will make all right.

Water pipe requires the best and strongest cement, and no one can successfully follow

the business, till he has become familiar with the various grades of cement.

B. LIVERMORE,
Cement Water Pipe Layer.
Hartland, Vt., Nov. 20, 1870.

EXTRACTS AND REPLIES.

FOULS OR FOOT-ROT IN CATTLE.

I have three cows that have the fouls or foot-rot so badly that the disease has got up on the ankle, causing the leg to swell considerably. How shall I treat the disease when it first appears? how when it has got above the hoof and is of four weeks or more standing? and how shall I prevent its spread among my other stock? Any information on these points, or on the nature of the disease will oblige a young farmer.

Stowe, Vt., Nov. 19, 1870. H. J. HARRIS.

REMARKS.—If the good people who are sufficiently "interested" in agriculture to talk and write eloquently of the exemption of the farmer from anxiety and care, were to take upon themselves the management for a single season of a flock of sheep or a herd of cattle with the foot-rot, or with any other of the numerous diseases and sicknesses to which stock is liable, such an experience would probably evaporate the poetry of the thing amazingly. In England the stock and dairy men have been much alarmed by a disease among cattle known as foot and mouth disease. It is regarded as contagious, and is characterized by pustules or blisters on the mucous membrane of the mouth, on the corners of the hoof, and in those places where the skin is tender or thinly covered with hair, as on the bags of milch cows. The symptoms are moderate fever, rumination ceases, and eating and swallowing appear to cause pain. But we do not suppose that your cows have this disease, still we apprehend it is something different from the old fashioned fouls. This disorder was treated by cutting away all the soft and spongy parts and applying a caustic liquid, much as is usually done with the foot-rot in sheep, and afterwards covering the parts with a mild ointment, or wrapping and tying on a piece of fat bacon, and keeping the animal clean and quiet. To do this it is often necessary to cast the animal. A rope is frequently drawn back and forth between the claws to clean them; but all this is much easier said than done.

Since the discovery of carbolic acid, it has been used as a wash for this and a great many other sores and eruptions. In England in the treatment of the foot, and mouth disease, a wash of eight grains of lunar caustic to an ounce of water is used, as well as lime water, and a solution of carbolic acid, after the use of the knife, as above directed. A poultice of linseed flour is also used.

We have made these general remarks rather to draw out the experience and management of those familiar with the disease than with the hope of answering your inquiries satisfactorily. We are in doubt as to the nature of the disease. The books tell about the Foul in the Foot being the result of feeding in wet pastures, or standing in filth. This does not satisfy us as to the disease among us, either with cattle or sheep. May it not result from causes similar to those which produce Black-leg? For this disorder Prof. Law recommends the use of carbolic acid internally and externally. And with our present information we should be disposed to use a wash of this—perhaps a strong suds of carbolic soap would answer, as the first remedy. When one animal in a herd has had the black-leg, Prof. Law advises that each animal should have two drachms of carbolic acid diluted in a pint of water thrown over its food.

We have thus frankly confessed our ignorance of the disease and of its proper treatment. Who will favor our correspondent with his knowledge of the subject?

LAYING LAND TO GRASS.

I have a piece of land of about two acres. In 1868 about 28 loads of manure were spread on to an acre, making about fifty-six loads on the piece. It was planted to corn with from one-third to one-half shovelful of manure in the hill; then, when manure failed, a table spoonful of phosphate to the hill. The result was a good piece of corn. I sowed the wheat in 1869, and seeded down to grass, but the clover proves to be Southern. Now if I should, next spring, say the 6th or 8th of May, plough in the clover and plant to corn without any manure, except a little in the hill, would the clover enrich the ground sufficiently for a good crop and would it leave the soil richer after taking off a crop of corn than now?

I have some acres of land that after mowing a few years runs into June or white grass. Would not lime, slaked and sown broadcast, when reseeding, be beneficial in keeping out the white grass, and if so, how much to the acre? M.

Corinth, Vt., Nov., 1870.

REMARKS.—Undoubtedly, the roots and stubble of the clover would enrich the soil, but it is questionable whether it would bring a good crop of corn. If you do not like the Southern clover, why not top-dress as liberally as you can any time this winter, and early in April sow northern clover seed and go over the field with a brush harrow? This will save ploughing, levelling and harrowing, and if the land is not weedy, will give you a crop of clover next summer. If weeds and clover should come together, cut early before weeds ripen their seeds, and if the season proves a moist one, you may cut two or three times. This last summer we mowed a field *four times* where weeds seemed determined to take possession, and now, Nov. 9, the surface is covered with vigorous grass roots and not a weed to be seen.

With regard to your second inquiry, concerning the use of lime, there can be no doubt, we think, that the lime would be useful to the soil, especially if the soil has been cultivated for many years. We do not think, however, that it would prevent the appearance of what you call the "June grass."

The probable reason why the grass "runs out," is, that the fertility of the soil is not kept up by

maturing, while heavy crops are annually, perhaps twice in a year, taken off. The herdsgrass and redtop roots—not being well fed—become weak and die, and nature, hating a blemish in her works, supplies the waste places by the more hardy June grass.

Now, if land is in good condition when stocked with grass, two crops, and sometimes three can be taken from it and leave the roots healthy and vigorous. Then if top dressed in the autumn just before heavy rains set in, two or more crops may be taken off and leave the roots as strong as they were the second year. In this way, heavy, moist lands may be kept in grass for many years, if not perpetually.

A HOG THAT WON'T EAT, AND ACTS QUEER.

I have a hog about seven months old that did well until I commenced feeding him with meal. Since then he will come up to the trough, stick his nose in his food, and leave for his nest where he will sometimes sit up for hours. Occasionally he will start and go around his pen as fast as he can. I have changed his food, giving him different kinds of meal, and tried every thing I could think of, but without any favorable result. If the editor or any of the readers of the FARMER can tell me what to do, I shall be much obliged by the information. The FARMER comes every week, and I should as soon think of getting along without a plough as the paper. I have tried eight or ten different agriculturrl papers and am better pleased with the NEW ENGLAND FARMER than with any of the others. AN OLD READER.

Barre, Mass., Nov. 26, 1870.

REMARKS.—The hog is about as contrary in sickness as in health. Sometimes he will eat and grow, and sometimes he won't. It might be well to turn him into a pasture or lot, if you can do so, and see if he can't find the medicine that his instinct teaches him is suited to his case. If you cannot do that, give him ashes, soot, coal, sulphur, salt, sods, soil, weeds, roots, twigs, rotten wood, chip manure, a few beef scraps, &c., and see which he likes best. Perhaps the change of food at the time you commenced feeding meal caused constipation or some other irregularity of the digestive organs; and, perhaps, something else ails him. Who will tell and advise our correspondent?

RING-BONE ON HORSES.

Will you please tell me if there is any remedy for ringbone in horses? If so, what is it? I have a young and valuable horse which has a ring-bone that I would like very much to cure. It is now about three months since it first made its appearance. SUBSCRIBER.

Pelham, Mass., Nov. 21, 1870.

REMARKS.—The veterinary books agree both as to the cause and treatment of this disease. We copy what Dr. McClure says of it in his new book on the diseases of the horse as most likely to embrace the latest information on the subject. He confesses that ring-bone is a serious affection. "It consists of a circle of bone thrown out from the underlying bone. Sometimes, in addition to this, the cartilages of the foot are converted into bone, and laid in the form of a circle; and hence its name, ring-bone. It is most common in the fore legs of heavy, coarse-bred horses, with short and straight up pastern-joints. When it occurs in fine-bred horses, it is usually the hind leg which is affected. Ring-bone does not always cause lameness.

Cause. Hereditary predisposition, from a peculiar formation of pastern-joints, which are found not well adapted to hard work; and hence, an effort of nature is set up to strengthen parts which are too weak, by converting an elastic substance into a hard and unyielding mass, and a moving hinge into a fixture.

Treatment. If it is of recent origin, and the horse is young, much may be done in the way of a cure, by first removing all heat and inflammation with cold water cloths wrapped round the parts for three days, taking them off at night. At the end of that time, get one drachm of the biniodide of mercury, mix with one ounce of lard, and apply one-half of the salve by rubbing it in well for ten minutes. Tie up the horse's head for a few hours, and the next day wash off with soap and warm water, daily anointing the parts with lard or oil for a week; then apply the remainder of the salve in the same way, and proceed as before. In old horses, not much can be done with ring-bone, as the bones of old animals contain so much earthy (lime) matter that nothing can act upon it."

LAXITY IN A HORSE.

Please tell me through your paper how to feed a horse to prevent laxity, when on the road, supposing present feed be dry. Cannot something be added which will remedy this trouble?

Haverhill, Mass., Nov. 21, 1870. SUBSCRIBER.

REMARKS.—Possibly too dry food has caused the derangement, and it may be well, contrary to what might at first be thought reasonable, to give the horse roots or some more succulent feed. Perhaps the following directions for treatment of diarrhœa, in Dr. McClure's new book on the diseases of horses, may afford you hints that may be of service in your case.

"First, give twenty to twenty-five drops of the tincture of aconite root in a little cold water. Then give the following powders every two hours, until a change for the better has taken place:—prepared chalk, half an ounce; catechu in powder, one drachm; opium in powder, ten grains. Allow the animal plenty of water to drink."

Rice boiled quite soft may be fed if the horse will eat it; or a thin gruel of wheat meal. Rice water may be used exclusively for drink.

TREES BY THE ROADSIDE.

How many of the readers of the NEW ENGLAND FARMER have trees set in their highways? In Germany, all the highways are, by a law of the land, set to some of the more valuable forest trees, and much beauty and comfort are afforded to the traveller both summer and winter. If there is anything that the generations coming after us

would thank us for, it would be for the cool shade of trees in summer, set out and growing by the roadside. Now is the time to set them out. I have near two hundred growing on my highways at a cost of less than fifty dollars, and certainly two hundred dollars would not buy them.

T. L. HART.

West Cornwall, Conn., Nov., 1870.

FOULS OR FOOT-ROT IN CATTLE.

We should have appended the following statement to our remarks, if it had come under our eye at the time we replied to the inquiry of Mr. Harris, in our last paper. It may not be too late to be of some service to him and to others, whose stock may be similarly affected. The writer in reply to a question by another correspondent says:

I applied nitric acid to kill the disease, and carbolic acid to heal the sore. The latter I mixed one part acid to three parts of lard, for an ointment; and for a wash mixed more of the acid with water in the same proportions as with the lard. The lard should be melted, the acid put in, and then stirred until cool, as otherwise they will not unite.

My treatment of the sore was as follows: After washing thoroughly with strong soap suds, I applied the acid and water sufficiently to touch all parts of the sore, and then applied the ointment. I then covered a cloth with tar and bound up the foot for the purpose of keeping the air from it, the acid being exceedingly volatile. A little batting, with a cabbage leaf and cloth, would answer the same purpose equally well or better.

The ointment should be kept in a closed vessel, a fruit jar answers a good purpose, and the wash corked. One or two applications of the nitric acid after it can reach the sore, are sufficient. I am of the opinion that the carbolic acid alone would be sufficient to interrupt the disease and effect a cure. Since I began to use the carbolic acid, I have had no new cases, and therefore have not enjoyed the opportunity of testing its efficiency alone. But it works like a charm in cleansing the sore, and thus affords nature a good opportunity to heal the wound.—*W. B. Riggs, Palmyra, N. Y., in Ohio Farmer.*

HARD AND DRY FEET IN HORSES.

I would like to say to the gentleman that wishes to know what to do for a horse's feet that have become hard and dry, so that the horse is lame,—that if he will take some clay and put it into a box some three to four inches deep, and moisten the same with kerosene oil, and let the horse stand in it while in the stable, or even wet the hoofs three or four times a day, it will make them as soft as ever.

This was told me by a great horse doctor and tamer. I should like to have him try it and report the results. But the question with me is, whether the hardness and dryness of the feet are not the effect of some disease, which, as you say, is shrouded in mystery. If we could get at the cause and remove that, it would be much better than to doctor the effect. But there may be some principle in the kerosene that may have a tendency to remove the cause, as well as soften the hoof.

Keene, N. H., Nov. 28, 1870. C.

Having had something to do with horses with pinched feet, I would say, that I have improved them very much in three months time, by simply paring the hoof very thin, even until the blood starts through the hoof, then have them shod by a *good* blacksmith, and fill the shoe with warm or hot tar, and mixed with horse dung, to keep the tar in place; also wash the feet with saltpetre and water, which will cool them. The tar mixture must be applied as often as it falls out. This treatment greatly adds to the comfort and improvement of the animal. H. B.

Bethel, Me., Nov. 28, 1870.

DEEP PLOUGHING.

With considerable interest, I have observed the discussions on *deep ploughing*. Different writers seem to vary much in opinion. But it may be that all their differences would disappear if the conditions were properly considered. If the land is a fine, loam soil, several feet thick and of nearly equal richness, it may be presumed that no one would object to running the plough one foot deep, or even two feet, if possible.

I think, both theory and experience agree in the conclusion that there is no danger of pulverizing the earth too deeply, or too finely, for the best results in the production of vegetables. But in this, as in every thing else, differing conditions require corresponding changes in action.

Every cultivator knows it is useless to turn two or three inches of hard clay subsoil over a few inches of loam, with the expectation of getting much of a crop, even though manure be freely used. If he does not know it, a few experiments will fully satisfy him.

It is probably about impossible to bring thin land into a high state of cultivation at once. But where clay predominates, and sand is easily obtained, by mixing the two together in proper proportions, with sufficient manure to make a rich loam when combined with the natural top soil, all the evils of deep ploughing will be obviated, and the best results obtained. I have seen land which had been nearly worthless, made very productive by such treatment.

Some land, however, cannot be so treated, because the subsoil is a hard gravel, composed of stones and clay or sand, or all three combined, in so compact a mass that it cannot be ploughed. Still such land may be made to produce large crops of excellent hay, by proper treatment, if the means are at hand, if not, it had better be let alone. I think the same remark will hold true of all deep cultivation. Every inch of pure clay or sand which is brought to the surface, is a damage to the crops, unless well mixed with loam and fertilizers, or my observation has been greatly at fault. If the last named condition can be properly secured, I think deep ploughing is sure to pay.

Florida, Mass., Nov. 28, 1870. JACOB DAVIS.

SEED POTATOES.

I saw in this week's FARMER an experiment of A. W. Hamilton, Superintendent of the Experimental Farm, Indiana, Penn., reported to the New York Farmers' Club on seed potatoes. This report will I suppose have a large circulation, and may I fear mislead many farmers.

The report should have given the *value* of each production, as well as the weight. I am led to say this much from having tried the same experiment myself. With me the one big potato produced two or three large, and *quite* a number of small potatoes, while the middling sized and the cut, gave more marketable ones, and consequently the most valuable production. N. P. CRAM.

Hampton Falls, N. H., Nov. 25, 1870.

TOBACCO IN WESTERN MASSACHUSETTS.

Buyers have commenced looking at the lots in this vicinity, but are not making many bids. It is feared that prices will not quite come up to last year. It is said that some lots have been purchased in Ohio at twelve cents per pound, through.

Farmers here are demanding twenty-five cents. Some are commencing to strip, and not much is found to be damaged in drying, though some white stripes appears. Why do not manufacturers buy directly of farmers, and have it sorted as they wish; or might not bonded warehouses be established in Boston and other cities? S.

Westfield, Mass., Nov., 1870.

POISON IVY.

"A correspondent writes us that whenever he comes near the poison ivy (*Rhus toxicodendron*) he plucks a leaf and bites it, and says this is a non-preventive of any evil effects from it. Some persons, however, are so sensitive to this poison that we fear serious results would follow the first attempt to put this in practice."

I cut this from a Western paper. Probably the correspondent who makes use of this homeopathic "*non*-preventive," is, like myself, entirely unaffected by the poison ivy. Several years ago, while huckleberrying, I handled the poison ivy quite freely, and returning home washed my hands at the kitchen sink. I myself was not in any way affected by the poison, but my mother, who happened soon after to use the same towel, was so severely poisoned as to lose her eyesight for several days. However efficacious "a hair of the dog that bit you," may be as a *remedy*, I should hardly like to prescribe it, in all cases, as a *prophylactic*.

Boston, Nov. 18, 1870. GEORGE.

EASTERN VIRGINIA.

In reply to the many persons who have written to me for information in relation to prices of land, health of the people in this tide-water portion of the State, I would say through your columns that I am little acquainted with matters out of my own neighborhood. Within a few months the following sales have been made within a circle of two or three miles of my residence. Several hundred acres of the Seaford estate, off the water, without improvement, at $15 00 per acre; several hundred acres of the Burke estate, at same prices; two to three hundred acres of Dr. Tabb's estate at same price. All the above without improvements. Oakland 200 or 300 acres at $18 per acre, improved —very low. Cedar Lodge, about same size, improved, $35 per acre. The three last lie on the river. Other properties are in the market; one of some 300 acres on the water, beautifully situated, offered at $35 per acre; another unimproved, plenty timber, excellent oyster shore, worth more probably than the land, at $22 per acre.

As to health, there is very little of lower Virginia that is not subject to autumnal fevers and chills. A considerable portion of Matthews and a part of Gloucester counties are as healthy as any portion of New England, and I think a good deal more so. Our land is thin and sandy, but takes improvement very kindly, and is peculiarly adapted to fruits, such as apples, pears—that can't be beat—peaches, grapes, figs, &c. No use in writing to me. Come for yourselves, via Norfolk.

SAM'L CLARK.

Hick's Wharf, Matthews Co., Va., Nov., 1870.

CHEESE FACTORY IN NORTH CAROLINA.—Specimens of fine cheese made by W. S. Cornell, formerly of Ithaca, N. Y., at a factory in Buncombe County, N. C., were recently exhibited to the New York Farmers' Club. Mr. C. unhesitatingly pronounces that section of western North Carolina having Ashville as its centre as, in his opinion, the best cheese-making section of the United States, The region alluded to by Mr. Cornell has a length of over 150 miles, and average breadth of 50 miles. The soil is a black loam, rich in potash and vegetable matter. There are hundreds of locations as good as Mr. Cornell's for cheese-making, and land is cheap. This factory is on Elk Mountain, four miles from Ashville, and is about 4000 feet above the sea. Last summer the thermometer did not go over 80 degrees, and the climate is favorable to consumptives.

PATENT ON FRUITS AND VEGETABLES.

We have received a circular from George Haskell, of Ipswich, Mass., enclosing a proposed bill to be passed by Congress into a law "to encourage the production of new and valuable fruits and plants," together with the form of a petition for the signatures of those who favor the passage of such a law.

The following sections of the proposed law will indicate its character. The omitted sections relate mainly to details:—

Sec. 1. Any citizen of the United States, or any person resident therein, who hath been or shall be the originator or discoverer of any new and valuable plant, being a new variety of any fruit, grain, herb, root, tree, wood, or flower, and which shall not have been sold or publicly offered for sale by the originator or discoverer, and his executors, administrators or assigns, shall, upon complying with the provisions of this Statute, have the sole right and liberty of propagating and selling such plant for the term of twenty-eight years.

Sec. 2. [Provides for a continuation of this period for fourteen years, after the expiration of that provided for in section one.]

Sec. 11. The provisions of this Statute shall apply to the propagation, increase, or multiplication of any protected plant by cuttings, buds, scions, slips, offsets, tubers, layers, roots, and in every other manner except the propagation thereof by the proper seed.

Sec. 12. All actions, suits, controversies and cases arising under this law shall be originally cognizable as well as in equity as at law, whether civil or penal in their nature, by the Circuit Courts of the United States or any District Court having the jurisdiction of a Circuit Court or in the Supreme Court of the District of Columbia or any territory. And the Court shall have power upon bill in equity filed by any party aggrieved to grant injunctions to prevent the violation of any right secured by this law, according to the course and principles of equity, upon such terms as the Court may deem reasonable.

Sec. 13. A writ of error or appeal to the Supreme Court of the United States shall lie from all judgments and decrees of any of said Circuit or District Courts in any action, suit, controversy or case under this law, in the same manner and under the same circumstances as in other judgments and decrees of such Courts, without regard to the sum or value in controversy.

Sec. 14. In all recoveries under this Statute, either for damages, forfeitures, or penalties, full costs shall be allowed thereon.

The circular says, "If you think this or any similar law for the protection of horticulturists desirable and just, it is hoped that you and your

neighbors who concur in that opinion will petition Congress therefor."

Without claiming to have investigated the subject very thoroughly, we have read many of the arguments that have been advanced for and against the passage of such a law as is proposed; and as at present informed, we might sign a remonstrance against, but not a petition for any legislation that would give individuals a patent right to fruits and flowers, plants and vegetables.

We have a great dislike for litigation, and the immense number of law suits that arise under our present patent laws, warn us of the consequences that would result from giving to pettifoggers, speculators and sharpers the broad field which the proposed enactment would open to them. Though the inconveniences which must result from giving to any man, as "originator or discoverer," a monopoly of "any plant, being a new variety of any *fruit, grain, herb, root, tree, wood or flower*," are sufficiently obvious, we presume that these printed petitions will be extensively circulated, and from what we know of the readiness and carelessness with which men lend their names in such cases, we do not doubt that they may be numerously signed. We hope, however, that Congress will hesitate before it puts our fruits and our flowers, our herbs and our trees, our roots and our woods, among the "patent articles" already so numerous in the kit of the speculator.

PREMIUM CHEESE.

At the late Fair of the New York State Agricultural Society the premium on Cheese was awarded to that made at Dr. Wright's Factory, Whitesboro', Oneida County, N. Y. The process of manufacturing was stated by the proprietor, as follows, and published in the *Rural New Yorker:*—

Preparation of Rennets for Use.

Three earthern jars are procured, numbered and placed in a line, three days before the preparation is needed. In number one, as many rennets are placed as are found by experience to be needed each day, which is about one good rennet for each vat of milk of 4,000 pounds. A small quantity of sour whey, and one-half pint of salt is placed in the same jar.

The next day these rennets are rubbed out, and placed in jar No. 2, with whey and salt. The third day the rennets in No. 2 are rubbed out and placed in jar No. 3, with whey and salt, and those in No. 1 are placed in jar No. 2, and the same number of fresh rennets are placed in jar No. 1.

We now use the liquid from jar No. 1 each day, at the same time rubbing out the rennets and putting them in the other jars as before, and dipping the same quantity of liquid as used from jar No. 3 to jar No. 2, and from jar No. 2 to jar No. 1, each day putting the same number of rennets, into jar No. 1, and the same quantity of whey and salt in jar No. 3. The rennets in jar No. 3 are rubbed out and removed every few days.

Mode of Making Cheese.

The night's milk is drawn into the vats and cooled to 65° by Austin's Agitator and running water. The morning's milk is run into the vat, and the whole heated to 84°, when the rennet and annatto are stirred in.

As soon as the coagulated milk will break smoothly over the finger, and before it is very hard, cut and cross-cut, but rather coarsely. Heat by dry steam to 96° or 98°; in the meantime, stir with rakes to prevent packing. Let it remain until the whey is slightly acid. Draw off the whey and pack the curd on each side of the vat to drain, air, and acidify.

Next cut the curd in square pieces and reverse those next to the side of the vat, placing the others on them also reversed. When the curd is quite acid, pass it rapidly through a curd mill, using steam power, and immediately salt, using from two to two-and-a-quarter pounds of salt to one hundred pounds of curd, thoroughly incorporating the salt, and put to press directly.

Press twenty-four hours, and remove to the curing house, turning daily for three weeks, and then every other day. Sell when from thirty to forty days old to good judges and responsible men, for the highest price cheese is going for in Oneida county.

THE TENNESSEE FRUIT KILN.—Any man can make it in a day who has the stone, and on it he can dry about one bushels of dried apples per day. It is built of stone, laying the walls 10 inches high, and four feet wide, leaving a place for smoke to go into the chimney at the back end. A few pillars are put through the centre so as to hold up the top stone; that leaves two places for fire. It is covered with stone two or more inches thick; upon that two or three inches of thick mortar is laid, so as to make a firm body that will hold the heat. After it is dried, a bushel of slaked lime, with very little sand in it, is spread evenly over the top; that will become hard; the fruit is spread upon the top.

As to length, people can suit themselves, but eight feet is a good length; then the heat can be kept more uniform. The fruit dries very fast. It requires to be filled morning and evening. This way saves a great deal of time to the women, and it dries the fruit faster, so that the flies and bees are not of any trouble. If any one tries it once, they will never do without it while they have fruit to dry.—*Ohio Farmer.*

—The civilized Indians of Oregon raised 300 bushels of wheat this year.

NEW JOINT OR BRANCHING CORN.

All careful farmers are aware of the fact that the number of ears, early maturity and general productiveness of corn can be increased to some extent by judicious selection of seed. Whether such improvement has as yet reached its limit, is a question which few farmers probably are prepared to answer in the affirmative.

The above cut represents what is claimed to be the results of experiments in selection and propagation conducted with greater care and perseverance than most farmers have patience to carry out, by E. O. Judson of Cuba, N. Y. He has been equally successful with the yellow, sweet and pop varieties. We have seen a single stalk of his field or yellow corn with eight ears, which together measured sixty-one inches. Samples of the stalks with the ears on them as they grew can be seen at the seed store of Whittemore, Belcher & Co., 34 Merchants Row, Boston, who have the seed for sale. Here specimens can be seen and all the information we possess obtained.

COARSE WOOLS IN LARGE FLOCKS.

In reply to a request for his experience with long wool sheep, Mr. Ira S. Haseltine, of Richland Centre, Wisconsin, and a breeder of high standing, writes as follows to Hon. H. S. Randall, as published in the *Rural New Yorker*:—

About five years ago I sold my flock of about 2000 Spanish Merinos, (which I had handled successfully for several years,) and purchased about five hundred Cotswolds, Leicesters and Lincolns, in Canada, and took them to my place in Richland county, Wisconsin. I have kept them in different-sized flocks at different times, according to size of pasture in summer and convenience of feeding in winter. I find they will not do well on wild prairie grass, or timbered land pasture, like the Spanish Merinos. They do well on good English grass pasture in summer, and shock corn with timothy hay in winter.

I kept three hundred in one flock during one winter; I fed them shock corn and timothy hay; they wintered very well. They had an open shed for shelter. I am satisfied that the Spanish Merinos will do much better in large flocks than the long-wooled sheep of any kind, either during summer or winter. I now keep about 1000 sheep of the different kinds, and breed them separately. I like the long wools best for raising lambs, as they are much better milkers; I also like them much better for mutton. I like the Spanish Merino best for subduing wild pasture, and for rough usage in large flocks.

Cashmere Goats.

I also keep a flock of about one hundred Cashmere goats, which are more hardy and better breeders than any other wool bearing animal. They live upon browse both summer and winter, and cost me no hay or grain to keep them whilst they are permitted to run in the woods. I have kept them for five years, and am much pleased with them. They are valuable for their wool, their milk, their meat, and their skins for robes. Their milk is particularly valuable for consumptive persons and children while teething.

—A farmer in Iowa has harvested his barley on the ninetieth day after sowing.

OUR WINTER SCHOOLS.

FROM the early settlement of New England parents have ever manifested a deep interest in the proper education of their children. The winter term of many district schools is now about to be commenced.—Parents should not only use their influence to secure for their children the best teachers, but should see that they have all the books and apparatus that will aid them in their studies. This will cost considerable. But the cost of education, as well as of living, has much increased of late. The modern system of teaching requires more books and other appliances than the system formerly pursued; but the education of our children is the last department in which we should economize. A good education is the best investment we can make for them—the best inheritance we can leave them. We must keep up with the times and conform to the fashions of the day. It will not do to complain that schooling costs more than it did when we were children, that different studies and different methods are pursued, and to say that we did very well on the old plan. The world is moving, whether it is improving or not, and we must move with it, or we shall be left behind in the race.

There are some very important differences between the schools of to-day, and the schools of forty and fifty years ago. Female teachers have taken the place of the male teachers in our winter schools as well as in the summer schools. Our normal schools and our high schools have trained female teachers for the work of teaching, which has now become a profession. Females now have higher wages than males formerly had. They have spent three or four years in fitting themselves for the work. They have to pay at least twice as much for board, and other expenses are in proportion, and they are in general more thorough teachers than males formerly were, and why should they not be paid in proportion? Instead of attending school five or six months in a year, children now attend nine or ten months; and with better books, with the blackboard and other apparatus, they go over the course of elementary instruction by the time they reach the age of fifteen or sixteen years, when those who are not going to study professions or prepare themselves for teaching, consider their education completed. Formerly lads of fourteen or fifteen left the schools in the summer, and worked on the farm or in the shop with their fathers, and attended school in the winter until they were eighteen or twenty. The same course was pursued by many young women. There were some advantages in this. Their minds were more mature. They were capable of thinking and reasoning. They understood better what they studied. Probably the last winter of their attendance, when they generally reviewed what they had previously studied, was more useful to them than any two years which had gone before, owing chiefly to greater mental maturity.

Now all this is changed. The young men who remain at home on the farm, do not attend schools taught in the winter by females. A large proportion of the boys leave home for the city, or the mill, or workshop, at sixteen. If they do not, they spend the winter in some city mercantile school, attending to penmanship and book-keeping, to fit them for the counting room; or in the schools of technology or science, to fit them for some scientific pursuit or for engineering, or some other business than farming.

There is a much greater demand for instruction in the Natural Sciences than formerly. Unfortunately this demand has sprung up just at the time when female teachers have occupied the desks in all our schools. They have not been trained to teach the sciences. The teaching in the normal schools even, does not fit them for this work. Here is a defect in our school system, which must be met by a more scientific training of female teachers, or by restoring male teachers to a portion of our public schools. Males seem to have a greater facility to acquire and impart a knowledge of the natural sciences than females, owing

doubtless, in some degree at least, to the more practical direction that has been given to their powers of observation, and to their application of observed facts.

The theory of our school system is that our high schools are to furnish free instruction in all the higher branches previously taught in academies and special schools, at so great expense to the scholars, that only the children of the more wealthy could enjoy the privilege of such instruction. Owing to the change in teachers, and to the greater demand for instruction in the natural sciences, especially such as will fit young men for engineers and skilled workmen in the mechanic arts, this theory fails in practice. Our high schools were established to impart classical instruction and fit young men for college. But this is found to require too great a proportion of the time and labor of teachers in public schools. A class of two or three boys fitting for college, in a school of fifty scholars, requires at least two hours daily of the teacher's time, leaving but four hours for the remainder of the school, which is obviously unjust. Instruction given in schools wholly devoted to classical studies, is, in the nature of the case, better than can be given in our high schools, where the attention of the teachers is given to instruction in a variety of branches. Hence very few boys go from our high schools to college. They must all spend from one to two years at some classical school, or under private tuition. Those who need scientific instruction, spend the last year of school life at the school of technology or some other scientific school. Our system then fails in this respect.

We would not say a word against our free schools. They are the glory of New England. To them are due in great degree, the character and prosperity of our people. They are preparing thousands of our young men and women, who never go to any other schools, for the business of life, and the duties of citizens. But we must not expect too much of them. If we expect them not only to lay the foundation of a good education, but also to impart a knowledge of the classics, and of the higher branches of science to our children, by the time they are fifteen or sixteen years of age, we are clearly expecting that which is impossible.

We have been often asked why classes cannot be instructed in agriculture in our common schools. We answer, briefly, because the scholars are not fitted to receive such instruction, and because the teachers are not fitted to impart it; and if they were, neither have time for it, without neglecting other branches of instruction which must necessarily precede this to fit them for a proper understanding of its principles.

In the common school, instruction must be confined chiefly to such knowledge as is wanted in common by all the pupils. Let a good foundation be laid, and then a knowledge of special branches must be acquired in schools especially designed to teach them, or from practice and books which treat of such subjects. Attempts to impart instruction beyond the capacity of the mind, is but little better than labor lost. Want of capacity may be owing to want of age, or want of previous instruction.

A felt want among a free people sooner or later works out a supply. The want of instruction in special branches of study, which it was felt that our common schools could not supply, has led to the establishment of schools of design, of music, of chemistry, of mines, of engineering and other special branches, including agriculture; and it is about as wise to expect our common schools to furnish instruction in such special studies as in law and medicine.

Let us be contented to use our common schools for what they are intended, and for what they are capable of doing, and not spoil them by attempting to force them to do a work which they can never do.

ASIATIC FOWLS.

Some twenty-five years ago, when the Asiatic breeds of fowls made their appearance among us, we were upon the verge of *hen feverism*, and the buff Shanghai gave it the impetus. When first introduced they were a large, yet compact, short-legged bird, and were received by farmers as a very desirable fowl for market purposes; but soon the fanciers, "taking for their stand-point, size alone," commenced breeding for that desideratum, producing a long-legged, coarse, ungainly fowl that could easily look down upon the top of a flour barrel, or take their corn from a four foot post; the bones of such fowls were found to weigh more than their flesh, until attaining the age of twelve months; the pullets not laying until six and seven months old.

Therefore the boarder at the hotel would not eat them; the hotel proprietor refused to purchase them; the butcher could find no sale for them; the farmer would not raise them, and the country at large cried them down, until the old Shanghai fowl was in oblivion.

Now, at the present time, we notice the same spirit manifest in the breeding of Light Brahmas. Agricultural fairs and poultry shows are favoring size much to the detriment of other points more requisite to a profitable fowl; and our fanciers are endeavoring to increase the size by selecting, as breeders, large, coarse, long-legged birds. If this course is continued, we shall soon have in form and worthlessness a second tribe of Shanghai fowls.

For profit in market fowls and as egg producers, give me the compact, short-legged Brahma that will mature to laying at four and five months old, and the young fowls, when dressed, are not all legs and bones. I have bred the Light Brahmas in purity for the past twenty years, from 200 to 400 annually. My young cocks hatched in March, when ten weeks old, sell readily, at that early season, in Boston market at $1 each; and my pullets, when high fed, lay at four and five months old. Of all breeds yet introduced the Light Brahmas stand No. 1. JOHN S. IVES.

Salem, Mass., Oct. 3, 1870.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

POISONS;

THEIR SYMPTOMS AND TREATMENT.

Poisons are substances of an animal, vegetable, or mineral nature, which, when administered in small quantity, are capable of producing deleterious effects on the animal economy. Such substances are arranged, according to their effects, into three classes, viz:—

1. IRRITANT POISONS, or those which produce irritation and inflammation.

2. NARCOTIC POISONS, or those which produce stupor, delirium, and other affections of the nervous system.

3. IRRITATING NARCOTIC POISONS, or those which produce both irritation and stupor.

Writers on *Toxicology*, or the science which treats especially of poisons, describe each article, its effect, its antidote, &c., under the name of the particular class to which it belongs; but, for the better convenience of the reader, we will mention them in alphabetical order.

ACETIC ACID.—This is an irritant poison, derived from the vegetable kingdom; it is the basis of good vinegar.

Symptoms.—Great heat and burning pain in the stomach, convulsions, and death.

Treatment.—Give magnesia, soda, or saleratus mixed or dissolved in water. Copious draughts of warm flax-seed tea, or of warm water may be given afterward.

ACONITE.—The *Aconitum napellus* or Monkshood is a narcotic poison when an overdose is taken.

Symptoms.—Stupor, numbness, desire to vomit, delirium, convulsions of different parts of the body, palsy of the limbs, variable pulse, quick respiration, general convulsions, and death.

Treatment.—The stomach must be effectually evacuated by means of a stomach pump, or by emetics of ground mustard-seed, or of white vitriol (*sulphate of zinc.*) After this has been effected, copious draughts of warm flax-seed or slippery-elm tea may be given, followed by strong coffee, once in twenty or thirty minutes, to which a few drops of aqua ammonia may be added.

ALCOHOL.—This article is the product of fermentation, and is the intoxicating principle in all fermented and distilled liquors.

Symptoms.—General excitement, more or less, confusion of intellect, sleepiness, delirium, nausea and vomiting, coma, and apoplexy.

Treatment.—See Aconite, Opium, &c.

AMMONIA—Hartshorn. This is a corrosive mineral poison.

Symptoms.—Excoriation of the mouth and throat, burning sensation in the throat and stomach, vomiting and purging; the ejected matters oftentimes being bloody.

Treatment.—Administer, without delay, vinegar or some other vegetable acid, or, give repeated doses of some fixed oil, as olive, linseed, or castor oil.

ANTIMONY.—The only preparation of this mineral by which poisoning is apt to be produced, is Emetic Tartar (*tartrate of antimony.*)

Symptoms.—Violent vomiting, burning heat in the stomach, severe griping pain in the bowels, and purging, hiccough, a small and rapid pulse, fainting, great prostration of strength, coldness of the surface, cramps in the legs and feet, &c.

Treatment.—If vomiting does not occur speedily, it should be encouraged by tickling the throat with a feather, or with the finger, and by administering copious draughts of warm water. Strong astringent infusions should be given, such as an infusion of oak or hemlock bark, gall nuts, or green tea.

Wine of Antimony, Hives Syrup, and several of the Cough Syrups, Cough Drops, &c., so much used by mothers and nurses, contain *tartar emetic*, and children have been poisoned by them. In such cases, the treatment should be as above prescribed.

ARSENIC—Ratsbane. This is a metallic irritant poison.

Symptoms.—Violent burning pain in the stomach and bowels, with tenderness on pressure, retching and vomiting; dryness and tightness in the throat, thirst, hoarseness and difficulty of speech, diarrhœa, tenesmus, and sometimes excoriation of the anus, urinary

organs occasionally affected with burning pains and suppression, convulsions, cramps, clammy sweats, lividity of the extremities, collapsed countenance red and sparkling eyes, delirium, death.

Treatment.—The Hydrated peroxide of Iron is the only reliable antidote for arsenic; but as that article is seldom at hand in domestic practice, emetics of white vitriol (*sulphate of zinc,*) or of ground mustard seed, should be promptly administered; and these should be preceded and followed by large draughts of sweet milk, decoctions of starch, or of flax-seed, gruel, &c.

BARYTA—Barytes. The Carbonate, and the Chloride of Baryta have, sometimes, caused death.

Symptoms.—General irritation of the alimentary canal, with an affection of the brain and nervous system, such as dizziness (*vertigo*) convulsions, paralysis, &c.

Treatment.—Epsom salts (*sulphate of magnesia*) and Glaubers salts (*sulphate of soda*) are the proper antidotes. Emetics may be employed advantageously.

BELLADONNA — Nightshade. The *Atropa belladonna* or Deadly Nightshade is a powerful narcotic poison. For symptoms and treatment, see Aconite.

BISMUTH—Subnitrate of Bismuth. Trisnitrate of Bismuth. Pearl Powder. Symptoms and treatment similar to Arsenic.

BLOODROOT—Sanguinaria. The *Sanguinaria Canadensis* or Bloodroot, is an irritant and narcotic. In over-dose it is a poison. For symptoms and treatment, see Aconite.

BLUE FLAG—Iris. The *Iris versicolor* or Blue Flag, is an irritant poison.

Symptoms.—Violent vomiting and purging; severe pains in the stomach and bowels; great dryness of the mouth and throat; pulse, at first, full and quick, afterward, slow and feeble.

Treatment.—The vomiting should be encouraged by the free use of warm water, until all the poison is expelled; then a strong infusion of coffee should be given freely. Camphor, ammonia and other diffusible stimulants will be useful, as will the external use of mustard, &c., to the abdomen.

BLUE VITRIOL—Sulphate of Copper. See Copper.

BRANDY.—See Alcohol.

BROMINE—Bromide of Potassa, Bromide Soda, Bromide of Ammonia, &c.

Symptoms.—Irritation and inflammation of the mouth, throat and stomach; stupor, convulsions and death.

Treatment.—Give the white of eggs, starch or wheat flour, mixed in water.

CALOMEL.—See Mercury.

CAMPHOR.—In large doses, camphor is a poison. Symptoms and treatment, substantially the same as Aconite.

CANTHARIDES—Spanish Fly. Potato Fly. Blistering Fly.

Symptoms.—A burning sensation in the throat; violent pain in the stomach and bowels; nausea and vomiting; sometimes purging; great heat and irritation of the urinary organs; a distressing retention of urine, called *strangury;* convulsions, delirium and death.

Treatment.—Excite vomiting by the free use of warm olive oil, warm sugar and water, warm milk and water, warm flaxseed tea, &c. Enemas (injections) of warm broth, flaxseed tea or milk and water, should be administered, and camphor, dissolved in oil, may be rubbed over the lower abdomen and the thighs.

CARBONIC ACID.—This deadly poison exists in the form of gas, and is often inhaled by persons burning charcoal in a close room; by sleeping in unventilated apartments; by sitting in crowded rooms, without proper ventilation; and by descending into wells, mines, &c., without suitable precaution.

Symptoms. — Drowsiness, difficulty of breathing, loss of sensibility, &c. The countenance is of a livid or deep leaden color.

Tredtment.—Remove the person from the situation or apartment in which the poison has been inhaled, or open the doors, windows, &c., for the admission of pure air, and apply cold water to the head and neck.

CHLORINE — Bleaching Gas. This gas, when inhaled, produces violent irritation of the organs of respiration, cough with bloody expectoration, inflammation of the lungs, and, oftentimes, permanent pulmonary disease.

Treatment —Let the patient inhale ammonia, (hartshorn) cautiously, and administer white of eggs, milk or starch. Magnesia mixed in water, may also be given.

CHROME—Chromate of Potash. Chromate of Iron, &c. For symptoms, see Arsenic.

Treatment.—Give a solution of saleratus, (*bicarbonate of potash*) or of bicarbonate of soda, and then administer emetics.

CICUTA—Water Hemlock. See Conium.

CITRIC ACID—Acid of Lemons. For symptoms and treatment see Acetic Acid.

COCCULUS INDICUS.—This is an article used in the manufacture of fraudulent liquors. It is brought from the East Indies. For symptoms and treatment see Aconite.

COCLHICUM—Meadow Saffron. The bulb of the *Colchicum autumnale* or Meadow Saffron is used in medicine; but in an overdose it is poisonous. Symptoms and treatment same as Aconite.

COLOCYNTH — Bitter Cucumber. Wild Cucumber. Symptoms and treatment like Blue Flag. [TO BE CONTINUED.]

PUTTING AWAY CABBAGE FOR WINTER — Though we have seen recommended various modes of preserving cabbage through the winter, and have tried several of them, we continue to pursue the method that we have generally adopted for some twenty years. It is simply to dig slight trenches side by side, on some rising or dry spot whence the water

will readily drain off, in which stand the cabbage just as it grows, sinking it up to the head. The rows can be as closely together as the size of the heads will admit of. Cover over with corn-fodder, straw, or bean-haulm. Then set four posts so as to form a pitch, placing the head against a wall or board-fence. Form a roof by bean poles, when boards are not at hand, cover this with cornstalks or straw. If ordinarily well done the cabbage will keep as long as is desired, having usually kept ours until April and May.—*Germantown Tel.*

STRAWBERRIES.

We have not found it profitable to cultivate strawberries on *light lands*. The expense is too great and the product too small. We think strawberry culture reaches its highest profit only where *large crops* can be readily obtained, and these come only on heavy loam or clay land, well drained and heavily manured. *Sandy soils* will ripen up many small, very early berries, but the main crop is not large, and does not hold out well. Our method for the treatment of all light lands would be to grow *nothing* the first or second years. Simply seed the ground down to clover, let it grow as thick as possible until the summer of the second year, then plough it all under. If we had a muck bed close at hand, we would haul upon the field 200 loads per acre, and let it decay during the winter. The next spring the soil, with light ploughing, would be in fine condition, full of natural vegetable, and able to bear heavy crops. *Vegetable manure* is indispensable in the cultivation of the strawberry, and, as sandy soils are always deficient in it, we can easily see why it is impossible to make such light land highly profitable.

We have always contended that the most important part of the fruit business lies in *proper marketing*. However well the grower may cultivate his fruit, unless he is equally careful in sending it to market, he will surely fail in all his plans.

The profits of strawberry culture have been greatly exaggerated. Estimates of $500 to $1,000 per acre are rarely realized. Steady prices of thirty to fifty cents per quart do not come to general cultivators. Our experience in strawberry culture for the New York market, justifies us in saying, that no grower should undertake strawberry culture without a capital of $250 per acre, exclusive of land. Of this sum he will need $100 for berry baskets, and the balance must be equally divided between manure, plants, and labor of cultivation. After his bed comes into bearing, he must calculate seven cents per quart for marketing. In some localities it will be eight cents, in others but five cents, of which two cents is for picking, two cents for freight, and three cents for commissioners, labor, assorting and lost baskets. The average production in New Jersey is but 1,200 quarts per acre; in Delaware, is but 1,500 to 2,000. The past two unfortunate seasons, both East and West, are sufficient to show how easily the *small fruit business* may be *overdone*. We know there is always a great demand in the large cities for fruit, and that it will increase yearly, but commission men admit every season develops some new features that did not exist the year before, and many a fruit that was profitable last year is a dreg this; and others sell splendidly now which lagged the year before. Every grower must expect such peculiarities, and occasional losses are inevitable. *New York Horticulturist.*

Materials for Floors of Horse Stables.—The floors of city stables are of various kinds of material. The stable proper, its stalls, loose boxes, &c., are usually covered with wood laid in various ways. This material is perhaps less objectionable for such purposes than any other in use, since floors laid with wood last longer and need less repairing than do those laid with stone; however, some persons object to wood on account of its becoming saturated with urine and other animal fluids in a short time. Concrete is another substance now used in some rare instances for floors of stables, but from what we have seen of it we cannot truthfully recommend it for such a purpose, as it is very apt during the hot season to become full of holes and very uneven on its surface; its chief composition being, we believe, gas tar mixed with sand or gravel. Cobble and Belgian pavements are also in use for stable-floors, but more frequenly for the floor of the carriage-house or on that part of it upon which carriages stand while being washed.—*McClure's Stable Guide.*

An Illinois Pig Shelter.—A correspondent of the *Western Rural*, after having tried different ways of wintering hogs for the last twenty years, finds nothing equal to the following plan. I take two forked posts and set them in the ground, leaving them about four feet above the surface; next, I put on a ridge pole, and then get some pieces of plank, or scantling, or slabs, six or seven feet long, and set them slanting from the ground on each side and let the ends meet on the ridge pole; cover them with straw or anything that will not let the dirt fall through, and then put a thick covering over this, of earth. I dig a trench around this shelter, to keep out water. The shelter should face the south or east, and be ventilated about the middle. For this purpose I use a small piece of stove pipe. In the Fall, I gather up forest leaves and fill it up. The hogs work them up among the dry earth and form a dust. This is all they want. In the coldest weather they will come out dry and comfortable.

AGRICULTURAL ITEMS.

—It is stated that "Lady Milton" produced 1595 quarts of milk, and 249 pounds of butter, and "Cream Pot" produced 1533 quarts, and 239½ pounds of butter in a year.

—A savant in France has been trying how long he can keep eggs, and he concludes that rather thick linseed oil smeared over the shell as a varnish is better than lime or salt, or hot water.

—It is stated that of all the holiday beef exhibited last year at Chicago, there was not a single animal with less than three-quarters Shorthorn blood in its veins.

—The tobacco crop of Lancaster county, Pa., is the finest in quality and largest in growth ever raised there, and will be worth over one million dollars.

—Many persons have wondered why horse chestnut, horse-radish, &c., are so called. A Scotch work says that the original word was "harsh"—harsh-chestnut, harsh-radish, and that the French and Swedes translated it "horse."

—The following indicates the ruling prices for choice butter in St. Albans during the season: In May, it opened at thirty-two cents and closed at twenty-nine; June, twenty-eight to thirty; July, thirty-to thirty-two; August, thirty-two to forty; September, forty to forty-one.

—The silk culture in California is rapidly becoming an important interest, and bids fair in a very few years to rival even the gold production. A large number of silk establishments have recently been organized, the largest of which is known as the California Silk Culture Company.

—Sheboygan county, Wis., has 21 cheese-factories, using the milk of nearly 1,000 cows. The average amount of cheese produced per year is about 400 pounds, which, at 13 cents, about the average price of the season, would be $52 per cow, or $47,372 in the aggregate.

—The following gentlemen were recently elected by the legislature of Vermont, Trustees of the University and State Agricultural College:—Hon. Frederick Billings, of Woodstock; Hon. Horace Fairbanks, of St. Johnsbury; Hon. Paul Dillingham, of Waterbury, and Henry Clark, Esq., of Rutland.

—Into the city of New York there flow five great streams of milk each day. One over the Harlem road, another over the Erie, another over the New Haven, another by the Hudson, and yet another by the Long Island, amounting to $25,000 worth daily, besides that which comes in by numerous small rivulets.

—The *Western Farmer* says that Ira S. Hazeltine, of Richland Center, Wis., has kept as many as 2000 Spanish Merino sheep, and 500 or more Long Wool sheep—Cotswolds, Leicesters and Lincolns. He has kept 300 of the latter in one flock through the winter and had them do well. He writes the *Rural New Yorker* that he is satisfied that the Spanish Merinos will do much better in large flocks than will the Long Wools, and he prefers them for subduing rough pastures, and rough usage in large flocks, but likes the Long Wools best for raising lambs, and much the best for mutton.

—The *Ohio Farmer* says that the experiment with Ayrshire cattle was tried in the north part of that State twenty years ago and failed. The only popular blood stock for our dairies is grade Shorthorns, and the most profitable of all are selected natives purchased in the spring and turned over to the butcher in the fall.

—The apple crop in the interior of New York is enormous. The estimated yield in Genesee county alone is 30,000 barrels. Prices range from $1.30 to $1.50 per barrel. The potato crop is also immense, and parties are buying heavily for shipment, principally to the West, at prices varying from fifty to sixty cents a bushel.

—In growing spring sown wheat, as a general rule, very early sown is better than late; and in order to sow early, the better way is to plough the corn stubble, or other land intended for spring wheat, in the autumn, and in the spring only use the cultivator or harrow in preparing the land for sowing. Such a course will generally greatly facilitate the sowing, over the usual practice of spring ploughing for a grain crop.

—An Indiana correspondent of the *Rural New Yorker* writes: "A friend of mine, a lady of undoubted veracity, recently informed me that several years since she cracked a peach pit which contained two kernels: desirous of noting the result she planted the kernels, which in due time germinated, grew and bore, the one a large white, and the other a large yellow peach; each distinct from the other in habit of growth, and appearance and flavor of fruit."

—An Illinois correspondent of the *Country Gentleman* says that the present price of corn in the central part of the State is from twenty-five to thirty-five cents per bushel, according to freighting facilities; and that it is usual in that section to allow seventy-five pounds of corn in the car for a bushel, till the first of January, when the rate is seventy pounds. Corn is unusually dry this season and seventy-two to seventy pounds are now often accepted as a bushel.

—The *Home Journal* says that Kentucky shows an increase in the past ten years of between two and three hundred thousand souls. The population will reach about 1,360,000; the farms will number about 110,000, and the productive establishments about 5000. This is the largest actual increase Kentucky has ever made in any ten years since her first settlement. Some of the wealthiest counties have been growing poor and some of the poor counties have advanced in wealth.

For the New England Farmer.

SHALL WE GO SOUTH?

I met with a gentleman at one of our railroad stations a few days since who informed me that he was an agent for an association whose head quarters were at Memphis, Tennessee. Their object in sending him this way was to influence emigration and capital south, especially to their State.

He unfolded to me his purposes and plans and the grounds of his hope for success. To *his* mind there was not the shadow of a doubt as to the question of its being more advantageous for emigrants to settle south and for capital to seek investments there than any where else in our country.

These points are being persistently pushed at the present time with great vigor, not only by organized bodies of men who send out their circulars and agents, but by individuals who have an axe to grind in some way if they succeed. I am not prepared to say that they are wholly wrong and selfish in this matter; but I am confident that there are so many drawbacks to be considered and obstacles to be overcome in a location there, that, what at first glance appears to be every way desirable, will, on more familiar acquaintance with all that pertains to the question, assume a very different aspect, and doubts will arise and assume such large proportions as to deter many from yielding to their first impressions. Very many have, no doubt, bettered their circumstances by going south, but more I should judge had failed to be satisfied by the change.

On going through portions of Kentucky, Tennessee, Georgia, Alabama and Mississippi, last summer, I was convinced of the fact that almost every northern man who located out of the cities, found it not only desirable but *indespensable* that northern men should go in communities of their own neighbors and fellow townsmen, or others well known to them.

The fact is, however much we may wish to keep it in the background, that the southern people are not what we wish they were in many respects. Their tastes and sympathies are not in unison with ours; and, of course, so long as this is so, there cannot be fusion of feeling and harmony of action. I learned from ladies from the north, whom I saw in Alabama, that they were treated with much courtesy by the gentlemen, but very *patronizingly* by the ladies. This I think will be found true there almost universally.

I found some northern men doing well, very well, so far as money making is concerned, but more who were not. Crops are more uncertain than with us in New England, and when two years of failure come together great distress often ensues.

If a man goes south with a view either to prospect for lands or for using money for other porposes, he will be surprised at the amount of consideration bestowed upon him as soon as his object is disclosed. Should he be somewhat vain he will find food enough to satisfy his ambition in that particular. Any amount of calls and invitations will flow in upon him. He will be surprised to find himself so big a man. As a farmer I would sooner go the extreme northwest part of our country and settle on the proposed line of the Northern Pacific railroad (say in the valley of the Saskatchewan, where wheat is said to yield fifty bushels to the acre and weigh sixty-four pounds to the bushel) than settle any where in our southern or southwestern states for a home for myself and family.

It will surprise most people to be told that the winter temperature in this northern region is several degrees warmer than with us, and that no more snow falls. It is certainly a very *healthy* country, and free from fever and ague and other malarious troubles so prevalent at the south, and generally in all new settled countries.

I am aware that it is claimed for the south that their mines of iron and coal are in great abundance and of excellent quality. There is no doubt of this being true. But is it not equally true that we have as good if *not better* mines at our own doors? Within a few days I have been looking over some tables and estimates of the cost of making a ton of pig iron in Missouri and in Rhode Island, and find that Rhode Island can produce it for less cost by about twenty per cent. and of a quality pronounced equal if not superior to Missouri iron. These tables are given by one of the prominent business men of Providence, and are not mere fancy figures to gull the unawry. If these statements are correct, what advantage are we to gain by going south to invest in such business? Is it not manifestly for the interest of capital to seek out enterprises of this kind at our own doors, where we can look after it with our own eyes and handle it with our own hands? K. O.

Massachusetts, Nov., 1870.

WESTMINSTER, VT., FARMERS' CLUB.—We thank the Secretary and Treasurer of this veteran Club for the information that the association enters upon a new campaign with the following officers. From what we have published of its discussions and from what we have seen in the local paper, the Bellows Falls *Times*, we conclude that it is one of the ablest and best conducted, as well as oldest Farmers' Clubs in New England, and cannot doubt that it is doing much good among the farmers of that town.

President.—W. R. Kimball.
Vice Presidents—S. M. Nutting, Geo. W. Metcalf, B. F. Phelps, H. P Farr. O. L. Fisher.
Secretary and Treasurer.—M. W. Davis.
Assistant Secretary—J. B. Morse.
Directors.—D. C. Wright, H. Floyd, Orrin H. Black, N. G. Pierce, R. W. Rauney, Lemuel Spaulding.

A SMALL COTTAGE.

The above cut of a small dwelling house is copied from "Village and Farm Cottages," the author of which estimated that it could be built for six hundred and fifty dollars at the time his book was published, some fourteen years ago.

It is divided into three rooms and a front entry. The front door, at the right of the spade seen in the cut, opens into this entry, and from it there is access to each of the three rooms. The living room, with the large front window, is 14 by 15 feet; immediately back of this is the kitchen 10 by 13 feet, with a fair sized pantry back of the entry; and in the left-hand or ell part is the bed-room 10 by 14 feet, with a closet.

The exterior finish which is plain, may be ornamented by a grape vine or prairie rose, which will look better and cost less than the gingerbread finery of the carpenter. But what a small house for a family! True it is not as large as some; but it is not sufficient for a small family that has not the means to build larger? And would it not be better to own such a house clear than to have a larger one with a big mortgage, or to pay rent quarterly?

But if it is not good enough for you, how would it answer for your hired man? Many farmers are considering the question of employing married men and furnishing a dwelling for them, instead of boarding them in their families. We hope it will furnish valuable hints to somebody who wants a cheap house.

"TALKING FARMERS."—In the report of the proceedings of the late Farmers' Meeting at Concord, N. H., published in the *Mirror and Farmer*, we find the following:—

Mr. George, of Barnstead, offered this resolution:

WHEREAS It being a fact that the New Hampshire State Agricultural Society is and for the past few years has been conducted in a large degree by professional men and politicians, rather than by the farmers whose contributions mainly contribute to the success of the exhibitions, it is, therefore,

Resolved, By the farmers of New Hampshire to-night assembled, that the management of the State Society be transferred into the hands of the agriculturists of our State, that the lucrative offices of said Society be given to farmers in full sympathy with our people, that the abuses long existing in the present management of the Society be corrected, and that, failing in this, we will join our efforts with those of the farmers of our State in forming a new Society which shall be at least partially managed by men in direct sympathy with our agricultural people.

After remarks by the chairman and others, on motion of J. F. Lawrence, member of the Board from Rockingham County, the resolution was laid on the table.

A FINE WHEAT CROP.—Mr. A. M. Latham, of Ashley Barony, S. C., sent to the *Rural Carolinian*, a statement of a wheat crop on "seven acres of old field." The land was ploughed nine inches deep and a luxuriant crop of weeds turned under. Sowed one bushel of seed per acre. When full grown, the wheat stood about five feet high, he states, and the yield was 367 bushels of as fine wheat as he ever saw, or about fifty-two and a half bushels per acre! This will probably stir up some of the fossil farmers in the South.

INFLUENCE OF RAILROADS UPON AGRICULTURE.

VARIOUS departments of agriculture are probably more directly influenced by railroads than is believed by those who have not given attention to the subject. Let us look at some of the effects that have been and are being produced on agricultural interests by railroads.

They tend to equalize the value of land. Land is valuable not merely for its capacity to produce food for those who occupy it. A large portion of the population is engaged in other avocations than farming, and purchases its daily food in the open market, which is supplied by the cultivators of the soil, from the surplus which they produce above what is needed for their own consumption. Hence the value of land depends largely upon the facilities for transporting to market its surplus produce. It now costs no more to transport produce from lands lying within easy reach of railroads, two or three hundred miles, than it does to transport it fifteen or twenty miles by wagons. Many articles are now raised hundreds of miles from the city market, which a few years ago would not pay for transportation. Potatoes, green corn, apples and various vegetables are brought from New Hampshire and Vermont to Boston, and compete profitably with the same articles raised within a few miles of the city.

The same is true of the smaller fruits. Animals of almost every kind are slaughtered hundreds of miles away from the cities, and reach the market by the cars in good condition. Milk is transported daily from fifty to one hundred miles to Boston and New York. Tomatoes, peppers, cucumbers and various articles for the pickle manufacturers and canners, are brought in their season from the interior. Strawberries, raspberries, blackberries, currants and grapes are transported from fifty to five hundred miles in good condition.

The market gardeners in the neighborhood of New York, have cut up their lands into streets and house lots, and gradually crept up the North River from fifty to one hundred miles, and their "truck" in immense quantities is daily conveyed in boats and cars to the city. Large sections of southern Illinois are devoted to the cultivation of small fruits and vegetables for Chicago market, two hundred miles away. Land in southern Michigan and southern Illinois are worth from one to two hundred dollars per acre for agricultural uses. New railroads are penetrating the boundless solitudes of the West, affording the means of transporting to market their produce, and thus increasing their value many fold.

Cities are springing up,—yes, that is the word, *springing* up,—almost, like Jonah's gourd, in a night, creating a demand for the produce of the soil around them, and thus giving value to that which before had none.

By means of steam, the early vegetables of the South are brought to the markets of the North, some weeks before they are matured in our colder clime, thus prolonging our vegetable season five or six weeks; and the potatoes, apples and onions of the North find a market in the Southern cities, in the autumn. Both are accommodated by the interchange. The facilities for moving live stock are increased almost without limit. The herds from Texas are embarked at Abilene for Chicago, 460 miles distant, and from Chicago to New York and Boston, a thousand more, and thus the dense populations of the East are supplied with beef, which could not otherwise reach them, and would be of little value, where it is raised. So the swine and sheep from the West are transported by the thousand, to the Eastern markets, on the cars, or are slaughtered, and transported in the carcass. Wool and dairy products would not pay, were it not for the railroad.

Another benefit to agriculture is the dissemination by rail of good stock to all parts of the country. Every valuable importation of cattle, horses, sheep, or swine, soon makes its mark upon all the stock in the country. When it took four or five weeks to drive an animal from New York to Cincinnati, blood diffused slowly, but now that Short-horns are transported from Canada to Kentucky in three days, the work goes on rapidly. Agricultural machines manufactured in the State of New York, are exhibited at the fairs of St. Louis and Chicago, and every improvement in ploughs and harrows is soon known throughout the country. Guano and superphosphate are transported hundreds of miles, and at last, pears and grapes are brought from the

Pacific to the Atlantic. Lumber, too, is transported by rail hundreds of miles for building and manufacturing purposes, and lands that a few years ago were of no value, are now in the market.

Within the present century, a family from Worcester County, consisting of a father, mother, and two sons, built them two wagons, and transported themselves and their worldly gear to West Tennessee, and were seventy days on the way. The journey might now be accomplished in five days, at less than it cost to build the wagons. These rapid movements of produce, stock, and lumber, not only increase the value of land, but increase emigration and bring the land into demand.

For the New England Farmer.

WINDOW GARDENING.

We hope that all the readers of the ever attractive FARMER have made arrangements for a *window garden*, be it ever so small. Three or four pots of flowers that will bloom several months, during the dark, cold winter, will afford an incredible amount of pleasure to their owner. To be sure they require daily care; a neglect of a few days will greatly injure them. We have had practical illustrations of this fact the past week, when an unavoidable absence of a week or more, during which our household pets were intrusted to the hands of hirelings, has resulted in the loss of several of our cherished tender darlings.

During December plants require but little stimulant, but must gather strength for the remainder of the season. They must have their season of rest as well as animals, and if they have bloomed in the summer months, they cannot be expected to bud and blossom at the commencement of the winter. We have given many directions concerning the treatment of "window gardens;" but "line upon line, and precept upon precept" are required, unless one possesses an inborn love for their culture, and makes it a study. Any one can make a plant grow rapidly by watering it with a weak decoction of guano water, (one tablespoonful to one gallon of warm water,) applied once or twice a week; but it is another thing to grow a plant in perfect shape and condition.

More than half of the "window gardens" now scattered throughout New England will show scraggy, scrawny plants, which an experienced florist would discard as worthless; or else would prune and trim with careful hand, until we should consider them ruined, dwarfed almost leafless plants—not quite so, however, for their leaves are its lungs,—and they must not be entirely cut off. If they fall off it is another thing; for the roots set to work directly to put forth new ones; as we see in the case of roses and fuchsias, &c., which have been kept down cellar for a few months, and when given light, warmth and moisture, bud forth anew in fresh vigor and beauty, greatly enhanced by the period of rest they have enjoyed.

So take your ill-shaped plants, dear friends, and give them a six or eight week's sleep in a dry, frost proof cellar. Then prune with an eye to graceful shape; water,—not too plentifully—with warm water, occasionally mixed with guano or hen manure, and our word for it, by March you will call in your neighbors to behold their beauty and glory.

The variegated leaved plants require a season of rest, and will give you finer foliage another season if allowed to enjoy it.

Scarlet Zonale Geraniums and all their varieties of cherry, pink, salmon and white, are the most desirable plants for house culture, because they are never infested by insects. They require but little care and will bloom ten months out of twelve. Plants of a year's growth do better in-doors than those of greater age. A well shaped geranium in full bloom is a lovely sight. At this season the plants in pots should be frequently turned around. The stems naturally incline towards the sun, which does not usually favor us with much of his light, and by stretching out their leafy arms to receive its strengthening beams, they become distorted and spoiled. Twice a week at least, every pot should be moved and the saucers brushed out. It is very needful to have "house cleaning" in our "window gardens" once a week or fortnight,—the former is preferable. The pots should be washed in warm soap suds, and scrubbed with a brush to cleanse them thoroughly from the green mould which closes up their pores. One sees pots in a greenhouse covered with this same mould, and yet the plants are in full flower, but the greenhouse is heated by steam and the plants are daily aired, while in a parlor the air is close and dry and the roots require all they can breathe in, when it is fresh. Unclean pots are one cause of failure in the culture of house plants. Fresh air is another. We have written so often upon this theme that it would seem as if all our friends must be aware of its necessity. Throw open the windows every noon while the air is at its highest temperature; do not let ice-cold air fall directly upon the tender plants; but give it free circulation throughout the room; keeping a brisk fire in stove, furnace, or *far* better, in the glowing fire-place of wood, not coal.

If plants are kept in the kitchen, the frequent opening of the outside door, will freshen them, and the moisture arising from the cooking on the stove will be very conducive to their health. We have seen more thrifty and vigorous plants in a farmer's wife's kitchen than in a gorgeous parlor in Boston. Fresh air and moisture produced the results. If the kitchen grows cool at night, place the pots in

a warmer dining or sitting room, and when the mercury sinks far below the all important cypher, protect them with newspapers, ever at hand in a wise farmer's house; for *he knows* that they contain the rudiments of all learning, as well as the weekly markets. We know a farmer, stricken in years, past the period when Holy Writ declares that the grasshopper shall be a burden, who nightly, when the cold settles heavily down upon his one and a half story cottage, carries twenty pots of beautiful house plants into the cellar. "You see, my old woman thinks a powerful deal of these plants; our boys and girls are all gone; and flowers take their places; so I carry them in for her." Could a fashionable, modern husband show his dainty wife more delicate attention?

Window boxes are much in vogue now, and are easily constructed by an ingenious boy, and can be prettily ornamented with osiers, or moss, or cones, or coffee berries and rice seeds. They are desirable on account of the ease in watering them; for if a newspaper is used to protect the glass from drops of water, the whole surface of the plant can be sprinkled, and more moisture given than by merely wetting the surface of the pots. But they are objectionable on account of not being able to turn the plants, thus causing them to grow one sided. They are beautiful for the culture of bulbs and vines. Ivies, Madeira vines, Tradescantia and smilax will thrive perfectly in them, and the interstices can be filled in with crocuses, hyacinths, Duc Van Thol tulips and cyclamens.

If these are planted with a goodly admixture of sand, and then thickly covered with moss, to shroud the bulb from the light, and allow its roots to penetrate deeply into the earth before the tender green sheath shoots forth with their wealth of leaves and flowers, the blossoms will be vigorous and brilliant.

We can give minute directions for the construction of window boxes should our readers desire them. They will give an air of grace and elegance to any surroundings.

Flowers seen in the windows of the commonest cottage beautify and adorn it. The time required for their culture is not wasted; pure and holy lessons are learned from their mute lips; lessons which nature is ever ready to teach to those who will learn of her, and who will bend to listen to her revealings. We trust that many windows will be adorned with gardens this season, and if their owners desire any more information concerning their culture we shall be ever ready to afford it, and we hope that while

"Fiercely the winter's wind,
Biting and shrill,
Sweeps o'er the valley, fields,
Moorland and hills,"

they will adorn their fire sides with all that is bright and cheerful. S. O. J.

For the New England Farmer.

TOP DRESSING.---PLOUGHING MANURE UNDER.

When we take into consideration the fact that this is the enlightened nineteenth century which has developed many marked improvements, and revealed many wonderful discoveries in science and the mechanic arts, there is cause for humiliation that so little progress has been made in agriculture, the foundation and main-spring of everything that concerns man as a living being. And yet in the midst of this humiliation there is cause for rejoicing that new light is dawning; that the clouds of error and hereditary thought are receding, slowly it may be, before the march of science and practical demonstration.

But a few years ago, the opinion was well nigh universal that manure must be speedily covered to a depth of six or eight inches, or it would take wings and fly away. Great caution was used by the careful farmer, lest it lie a few minutes too long, and the team was kept in close proximity to the manure fork. A change of opinion has occurred to some extent, and many now believe that top dressing is the best method of improving the soil, as well as securing a present crop; yet the old method is still adhered to by many with much obstinacy.

Here lies, it seems to me, one of the most important problems in agriculture—one which the farmer should strive with the greatest earnestness to solve. It should have been solved beyond dispute long ago, for in its solution is involved thousands of dollars annually to the farmer of New England.

When manure leaves the soil, does it go up or down? If it goes up, then the deeper it is covered the better, if it is not entirely beyond the reach of the crop. If it goes down, then it should be spread upon the surface, and allowed to mingle with and enrich the soil, and remain as long as possible where needed, while passing away in its downward course.

The advocates of the upward tendency will not contend that manure is drawn up bodily, by the cart loan, but that it must first be dissolved and then taken up in a liquid form. Now let us take a familiar example or two, that have a close analogy to this subject. Suppose we dissolve one hundred pounds of sugar in water and place it in the sun. Evaporation begins and continues until the water is gone; but the sugar remains. Substitute salt or potash and the result will be the same; the water will pass off in vapor, and the dissolved substance remain. In neither case, if the experiment be conducted with prudence, will there be more than a slight loss. A small proportion of such substances as reveal themselves to us through the olfactory nerves, mingle with the atmosphere in the form of vapor or gas and is lost; but the proportion of manurial substances that come within the province of the general farmer and is lost in

this way is inconsiderable. Manure contains more or less ammonia in a fixed state that is liberated and lost by the application of lime or ashes. Hence the importance of keeping apart stable or barnyard manure and all alkalies, and applying them separately.

The farm which the writer occupies is a small one; but large enough to test a principle. It is but a few years since I turned my attention to this subject, and abandoned the old method of ploughing manure under, as it seemed to me, all at once, to involve a great loss of manure. I reasoned thus: according to general principles manure goes down; therefore if I cover it six or eight inches, it is gone that distance the first jump, and beyond the reach of many of the finer plant roots. Especially if it lie under a tough furrow of greensward, it is nearly useless for several weeks, until the stronger roots strike downward through the turf in search of food. It should therefore be spread upon the surface, and be permitted to mingle with the soil when it is needed, become dissolved by rains and thus converted into plant food to which the finer and feebler roots may find easy access, and remain as long as possible where its benefits will be felt.

There are cases where manure should be covered with the plough, but these belong to the catalogue of "necessary evils." Upon side hills where there is danger of washing into the rich valleys below, and when the manure is coarse and bulky, it may be covered. The process of rotting is hastened under the surface. But it would be better to convert such crude manure into a finer substance, fit for the surface, by mixing it with muck and piling up for a year under cover. C.

Wilmington, Vt., Dec. 1870.

WINTER PROTECTION OF BEES.

Farmers who keep only a few hives of bees, merely to obtain honey for home use, are not expected to give such particular attention to the business as those who are engaged in it largely, yet a certain amount of care is necessary to warrant a good return. Where the bees are wintered out of doors, protection from severe cold winds must be given, and may be afforded by setting posts on the north and west sides, boarding the same up closely and covering overhead.

None but strong colonies should be selected for wintering, and the weaker ones "taken up," or two united in one, which is better. To unite them, there are two simple processes: Smoke both thoroughly by burning cotton rags or rotten wood, and shake all together upon a sheet and put them into the hive of the strongest colony; or, invert the weaker of the two, set the other upon this and drive the first up by use of smoke, blown in at the base. Two swarms thus united, will consume but little more honey than one alone, as more heat is generated and less food required. Not less than fifteen or twenty pounds of honey should be allowed to winter a colony; where there is less than this, feeding will very probably be necessary, and the hives should be watched closely to see that the supply is not exhausted, and the family starved to death.—*Ohio Farmer.*

EXTRACTS AND REPLIES.

LOW PRICE OF FARMS IN MASSACHUSETTS.

Here in northern Vermont few farms can be bought under $30 to $40 per acre, and many are sold at double and sometimes treble these prices. Why are farms offered so much lower in Mr. Chapin's *Advertiser*, that are said to be located on or near the Albany railroad? Are the towns bonded to railroads, or deeply in debt, and thus heavily taxed? Or is the soil so run down and poor that they are worth so little? Can you tell me what is the matter with your Massachusetts farms that they are advertised at such low prices? If you have such a publication as our Vermont *Register* perhaps that would afford me the desired information. I enclose the money for a copy. W. H. A.

Milton, Vt., Nov. 28, 1870.

REMARKS.—At the time your letter was received, one of our subscribers in the town of Worcester, a gentleman of much intelligence, was in the office. We read it to him and asked him to tell us what answer we should make. After a moment's hesitation, he replied, "Well, I hardly know what to say. In my neighborhood several farms have been sold at prices I should have been unwilling to accept had they belonged to me. It is true that there is some poor land in Worcester county, but there is also much good land, and many farms cannot be bought at a low figure. Our boys seem to think they can do better at other kinds of business than farming. I have raised six boys, and only one is a farmer, and he probably remains at home from a conviction of duty to his parents rather than from choice. In Worcester, now a city of some 40,000 inhabitants, a great variety of manufacturing is carried on, and the young people prefer the shop or the store to the farm, and many of the old homesteads in the country towns are running down,—both fields and buildings being neglected."

Such were the suggestions of our Worcester county friend. We cannot add anything of value to them. Some of the towns in Worcester county are "bonded" for smaller or larger amounts, and a large part of them are seriously in debt, and there is much complaint of the late rapid increase of taxation. But we do not know whether those in Worcester county are worse off in these respects than towns in other States.

From our acquaintance with the soil of the Lake Champlain Valley, we are free to say that in few localities in New England can its equal be found. Our experience in the world teaches us that lands, as well as men, generally pass for just about what they are worth. We have little personal acquaint-

ance with the farms in Worcester county, but must conclude that if they are offered below their real value, it is the result of some temporary local cause,—a sort of selling fever or fashion, perhaps, which prevails at times in all localities.

Probably you will not be able to obtain a satisfactory answer to your questions cheaper than by a personal visit to Worcester county.

The Massachusetts Register is a large volume, and the price, we believe, some $3.50, and probably it would not prove satisfactory to you.

HAIR SNAKES.

What is in the water? About a month ago I made a new water trough or tub for my cattle. Yesterday I noticed something white at the bottom of the tub. On taking it out I found it looked like a horse hair, and was about eight inches long, but it soon began to move like a snake. Will horse hairs become snakes? If so, how soon after falling into the water? O. H.

Wallingford, Vt., Nov. 29, 1870.

REMARKS.—The natural history books spoil the poetry of the popular idea that horse hairs turn to snakes. These curious worms, like all other animated beings, are produced "after their kind." The perfect worm lays its eggs in long chains in water or moist earth. The young hatch in about three weeks, and are at first of a very different form from their parents. They are so small that some 400 make an inch in length. The American Cyclopædia says their posterior portion is cylindrical, rounded, and furnished with short spines at the end; the anterior is wider, the mouth having two circles of retractile tenticles and a club-shaped proboscis. These minute creatures are swallowed alive by crickets, grasshoppers, beetles, &c., in the bodies of which they are developed into long hair like worms. A hair snake eleven inches long has been found in a beetle only one inch long. Hence they are similar to the intestinal worms which exist in all animals. The books give them the name of *Gordius aquaticus*.

Would it not be better if boys and girls would read books which tell the wonderful stories about animal and vegetable life, growth and development, instead of those which deal in fiction?

A TRIBUTE TO THE FARM.

DEAR PARENTS:—It is the night before thanksgiving. I have been thinking, all day, while so busy with my hands, of those days years ago, when we were all at home, getting ready for thanksgiving. My memories of those seasons are very pleasant; and I have been thinking if my child could have such memories to bless him, should he live, of *his* childhood thanksgivings, I should be satisfied.

Then the *day* itself. No memories of cloud or storm, but sweet memories of the satisfaction and rest within; the final adjusting of everything, and every body bright and clean and satisfactory. Father going for our dear grandma, who was a part of thanksgiving; the return; her kind words and attention to each one, so thoughtful for others and happy in seeing all happy around her. We were satisfied with each other, and sought no outward pleasures beyond our own comfortable home.

I have felt to-night, dear parents, how much I would like to live over one of those glad days before our full circle was broken, with all those early joys and feelings. Yes, "I *would* be a child again," for one day—one thanksgiving day! Not that I wish to live my life over again; but *such* an experience, seems to me, would be like stepping from a stormy voyage, on to an evergreen isle bathed in sunshine and unfading beauty. Not that my voyage in life has been rough,—far from it; but only a very *busy* one. I do love to stop a moment at these mile stones, and recall my early childhood days in the dear old home, with all the loving and loved ones right there. And I bless my Father in heaven that my life was cast in a quiet country home, and that I was brought up a *farmer's daughter*. X. X.

New Hampshire, Dec., 1870.

REMARKS.—We have been allowed to copy the foregoing extract from a letter written by a daughter of a Vermont farmer, now the wife of a New Hampshire clergyman, to her parents. How many others have seen cause to bless their heavenly Father that they were brought up in a quiet country home,—that they were the sons or daughters of farmers! Do parents prize as they should such an inheritance for their children, when comparing the advantages of city and country life? The desire expressed by this lady that her child should be blessed by the memories to which she alludes, has been experienced by many parents whose children were growing up under different circumstances.

SEVERAL BREEDS OF HOGS.

Will you give the characteristics of the breeds of swine known as Suffolk, Essex, Mackay, Chester County or White Chesters and Plymouth, including their peculiarities of growth, origin and preference for farmers to raise? I would like to know if the Chester County and the White Chester are the same or different breed of hogs. I notice the breed called by some Chester County are coarse, large and rawny, and another called the White Chester are large, but not as coarse. D. A. Brown of this place has two—sow and boar—purchased of Mr. Baker, Barton, Vt., called full blood White Chester, which are very fine, large, handsome hogs. Mr. Baker purchased his breed direct from Pennsylvania. I notice in reading the premiums on swine, the breeds are seldom given.

READER AND SUBSCRIBER.

Keene, N. H., Dec. 2, 1870.

REMARKS.—The Suffolk and Essex are perhaps the two most popular of all the English breeds.

The Suffolk is white, with short heads, and long cylindrical bodies upon short legs, fine, thin hairs. By many English farmers this breed is regarded as the best in England. The late William Stickney, of Boston, imported and bred these hogs, and in some sections in New England it is still known as the Stickney breed.

The Essex breed is black, and is said to have been the result of a cross on the old-fashioned black hogs of Essex County, England, with an Italian breed known as Neapolitans. Early maturity, and an excellent quality of flesh are among the merits of the Essex. The color is not popular in this country.

The Mackay is an American breed produced by

crossing with various English breeds, by John Mackay, who for many years run a packet-ship between Boston and Liverpool. After retiring from his sea-faring business, he interested himself in breeding swine, and for several years the captain's hogs took all the premiums at cattle shows in his vicinity. In 1838, Mr. Sanford Howard said, "For aptitude to fatten, large size at an early age, they are unrivalled by any swine ever known in our country."

We know nothing about the Plymouth breed.

The Chester County, Chester Whites, White Chesters, &c., originated in Chester County, Pennsylvania. They are a good kind of white hogs, but probably they have not been bred with sufficient care and during a sufficient length of time to be entitled to the name of breed. Hence, as you say, some are coarse, large and rawny. The demand for these hogs, caused by advertising, &c., has been so large that some breeders have filled orders with such as they could buy of neighboring farmers.

Before railroads were introduced, drovers were in the habit of buying a nice kind of white pigs in the county of Columbia, N. Y., for the Brighton market. These pigs became popular, and were known as Columbia County pigs. The name is still applied at that market to thrifty looking white pigs from all sources and of all breeds.

PLASTIC SLATE.

A few years ago a patent roofing was advertised considerably. It consisted of felt covered with ground slate and coal tar. I believe it was called Mastic Roofing, and I think the Masonic Temple, Boston, was covered with it. I have not seen it advertised lately. Has it proved a failure for roofs, or are they using it to any extent anywhere? N.

Fairfax, Vt., Nov. 28, 1870.

REMARKS.—We are sorry to say that this roofing seems not to have given sufficient satisfaction to have been extensively used. We say "sorry," because a cheap and durable roofing is greatly needed, and the confident manner in which this material was recommended by Solon Robinson and other members of the New York Farmers' Club, led us to hope that the plastic slate would prove to be a valuable article. We have heard nothing of it for some time, and suppose it is a—failure.

SAWDUST WITH MANURE—VALUE OF COAL ASHES.

Will you please to answer the following questions. What is the effect of pine sawdust on manure when used as bedding? Are coal ashes worth anything as an absorbent or as a fertilizer applied to land in any way? ASKER.

Wrentham, Mass., Dec. 3, 1870.

REMARKS.—The first effect of sawdust on manure is to absorb the liquid portion, that otherwise might be lost; then it tends to produce heating, which must be guarded against and properly managed.

Coal ashes is worth something as an absorbent. It is good in privies, &c. As a fertilizer it varies according to the qualities of the coal burned, kindlings used, &c., but this value is generally considered to be very small.

On each of these subjects we have published several articles during the year past; and the index to the Monthly FARMER will refer you to the various pages on which these matters are discussed.

URINARY TROUBLE IN A HORSE.

About a year and a half ago a valuable horse appeared to have some urinary difficulty. It was passed with effort and was quite bloody. These symptoms changed in a short time. The urine so far as I could see resumed its natural color, but was voided frequently and often involuntarily. Any sudden start, such as putting a hand on him unexpectedly, or other nervous excitement, causes a discharge. No one whom I have consulted has been able to account for the trouble.

Claremont, N. H., Dec., 1870. S. A. SABIN.

REMARKS.—It is difficult to determine the character of the disease with which Mr. Sabin's horse is affected from the above description. It may be a case of gravel, and there may be a stone in the bladder; or, the whole difficulty may have been caused by a violent blow upon the loins, or by a severe strain. If practicable the bladder should be sounded, and a chemical and microscopical examination of the urine made by a competent person.

In the meantime, we would advise that the animal be fed on timothy or natural hay, with a fair allowance of oats and corn, withholding clover and other articles which contain lime. Let him have all the soft water he will drink, but give him none that is hard. Curry him well, clothe him comfortably, exercise him moderately, and in everything keep him in obedience to the laws of health.

If, on proper examination, a stone be found in the bladder, have it removed by a surgical operation. If it be a case of gravel only, give sixty to eighty drops of *strong muriatic acid* daily, in the water he drinks; also give freely of flaxseed and other mucilaginous articles. If the case is the result of a mechanical injury—a blow or a strain—mustard poultices, fomentations, &c., will be proper.

For the nervousness, liberal doses of *bromide of potassium* may be useful—say a tablespoonful of a saturated solution, twice or thrice a day. This may be obtained of any druggist.

WORKING BULLS IN HOT AND COLD WEATHER.

In a communication by O. W. True in the last FARMER, he questions whether bulls will stand the heat and cold as well as other cattle. In 1839 my father bought two bulls and trained them to work. They proved to be good workers and gentle. At five years old they would do more work about once a month, and have not had any trouble than the heaviest oxen in Danby, where he then resided. Since then he and myself have trained sixteen different bulls, all of which but one were good workers. All were easy to learn except two. During the same time we have trained four steers,

all proving good workers and good to learn. During the same time we have had four stags, which could not or would not learn anything, and remember it. The bulls will endure the heat or cold as well as any cattle, provided they are kept away from cows after you commence working them.

Wallingford, Vt., Nov. 29, 1870. ORRIN HAGER.

For the New England Farmer.

MEDICAL TOPICS.

BY A MEDICAL MAN.

Poisons; their Symptoms and Treatment

CONIUM.—The *Conium maculatum* or poison hemlock, (sometimes called Cicuta,) is an irritant narcotic, producing symptoms, when taken in an over-dose, similar to those produced by Aconite, and requiring the same treatment.

COPPER.—*Sulphate of Copper*, commonly called Blue Vitriol—*Acetate of Copper*, commonly called verdigris.

Symptoms.—Violent headache, vomiting, pain in the bowels, cramps in the lower extremities, diarrhœa, convulsions, palsy.

Treatment.—Same as for arsenic.

CORROSIVE SUBLIMATE.—See Mercury.

CREOSOTE.—This is an irritant poison obtained from the various kinds of tar.

Symptoms.—Pungent taste, burning pain, vomiting, purging, &c.

Treatment —Give the white of eggs immediately; or if that cannot be obtained give largely of wheat flour mixed in water.

CROTON OIL.—This is obtained from the seeds of a shrub found in India. Symptoms and treatment like blue flag, colocynth, &c.

DIGITALIS—Foxglove—The *Digitalis purpurea* or Fox-glove is a powerful narcotic. For symptoms and treatment see Aconite.

ERGOT—Smut of Rye.—This is a narcotic irritant, and poisonous in over-dose. Symptoms and treatment like Aconite &c.

FOWLER'S SOLUTION.—See Arsenic.

FOX-GLOVE.—See Digitalis.

GIN.—See Alcohol.

GLASS.—When glass or enamel of any kind is taken into the stomach, irritation and inflammation of the stomach and bowels, with the usual symptoms of such affections may be expected.

Treatment.—Give the white of eggs, wheat flour mixed in water, or thick gruel; and follow with such other remedies as are adapted to the cure of inflammation.

HELLEBORE. — The *Helleborus niger* or Black Hellebore is a powerful cathartic, and in large doses, an irritant poison. For symptoms and treatment see Blue Flag. Green and white hellebore may be found under the head Veratrum.

HENBANE.—See Hoyscyamus.

HYOSCYAMUS.—*Hyoscyamus niger*, or Black Henbane, is a narcotic poison. Symptoms and treatment same as Aconite, Belladonna, Conium, &c.

IODINE—IODIDE OF POTASSIUM—IODIDE OF IRON—IODIDE OF MERCURY, &c.—Iodine in all its forms, is an irritant poison.

Symptoms.—Heat and constriction of the throat, offensive eructations of gas from the stomach, nausea and sometimes vomiting, pain in the stomach and bowels with diarrhœa, a quick pulse, great thirst, tremblings, convulsions and death.

Treatment. — Give starch or wheat flour mixed in water, and then induce vomiting by the free use of warm flaxseed tea or other mucilaginous drinks.

IRON.—This highly useful metal in its pure state is not poisonous, but some of its preparations are. Examples: *sulphate of iron* or copperas and *chloride* or *muriate of iron*.

Symptoms. — Colic pains, vomiting and purging, violent pain in the throat, a feeling of tightness at the stomach, coldness of the skin, feebleness of the pulse, &c.

Treatment.—Give a strong solution of carbonate or bicarbonate of soda, and follow with mucilaginous drinks.

LAUREL.—See Prussic Acid.

LEAD—SUGAR OF LEAD (*acetate of lead*) —WHITE LEAD (*carbonate of lead*)—RED LEAD (*red oxide of lead*)—LITHARGE (*brown oxide of lead,*) &c.

Symptoms. — Obstinate constipation, violent colic pains, retraction of the abdomen, vomiting, a small hard pulse, laborious breathing, a blue tinge to the gums, tremors and paralysis of the extremeties.

Treatment.—If the poisoning be recent, give freely of sweet oil, white of eggs or milk, and follow with an emetic; then administer repeated doses of epsom salts (*sulphate of magnesia.*) In severe colic from lead poisoning, the warm bath, galvanism, anodynes and chlorate of potash, may be employed in addition to the salts, &c.

LIME.—Symptoms and treatment same as Ammonia.

LOBELIA—INDIAN TOBACCO.—The *Lobelia inflata* or Indian tobacco, is an irritant narcotic poison. For symptoms and treatment, see Aconite.

LUNAR CAUSTIC.—See Silver.

MANDRAKE—MAY APPLE.—The *Podophyllum peltatum* or Mandrake root, is a useful cathartic, but an irritant poison when taken in overdose. Symptoms and treatment same as Blue Flag, Colocynth, &c.

MERCURY — CALOMEL, (mild chloride of mercury,)—CORROSIVE SUBLIMATE, (corrosive chloride of mercury)—RED PRECIPITATE, (red oxide of mercury)—VERMILION, (red sulphuret of mercury,) &c.

Symptoms.—A harsh, metallic, astringent taste, a burning pain in the stomach, vomiting and purging, irritation of the urinary organs, and sometimes suppression of urine, a sense of tightness and of burning in the throat, stupor, convulsions and death.

Treatment.—Albumen in some form should be given as soon as possible. The white of

eggs is best; but if that be not at hand, milk, or wheat flour mixed in water may be used.

MORPHIA or MORPHINE.—See Opium.

MURIATIC ACID or HYDROCHLORIC ACID.

Symptoms. — Burning in the throat and stomach, thirst, a hot and dry skin, a red and glazed tongue, black lips, vomiting of blood mixed with yellow matter, cold sweats, delirium and death.

Treatment —Administer magnesia or soda, mixed in water, and follow with flaxseed tea, or other mucilaginous drinks.

NITRE—SAL NITRE—SALTPETRE—NITRATE OF POTASH.—See Potash.

NITRIC ACID — AQUAFORTIS. — Symptoms and treatment like Muriatic Acid.

NIGHTSHADE.—See Belladonna.

NUX VOMICA.—This is the common name for the seeds of the *Strychnos nux-vomica*, a moderate sized tree found in the East Indies. It is a powerful narcotic and irritant. Symtoms and treatment like Aconite.

OPIUM.—This is a powerful narcotic poison extracted from the poppy—(*Papaver somniferum.*)

Symptoms.—Drowsiness, stupor and perfect insensibility or delirium, followed by profound sleep, a pallid countenance, deep snoring or stentorous breathing, cold sweats, a slow, full pulse, a cold and livid skin, a suspension of all the secretions, except that of perspiration, sometimes convulsions, particularly in children.

Treatment.—The stomach must be evacuated as speedily as possible. Use a stomach pump if one is at hand; if not, administer an emetic of white vitriol (*sulphate of zinc*) or of ground mustard seed. Affusions of cold water upon the head, chest and spine, may be employed with advantage; also, *flageliation*, or whipping the extremities with small rods for the purpose of arousing the patient from his stupor. The best liquid that can be given is a strong decoction of coffee.

[TO BE CONCLUDED.]

TIME FOR COWS TO COME IN.

A cow that drops her calf in April is of more profit than one that comes in earlier in the year, with the same care and feed. If your cows drop their calves in February, or the first part of March, you will have to feed largely with grain, roots, &c., the rest of the feeding season, and you will make an article of butter which must be sold immediately, as you cannot keep spring butter, nor can you make butter as cheaply with the mercury at zero or below, as when 30° to 60° above. By the first of June, whether you have fed extra or not, your cows will fall off in quantity and quality of milk, and you will have a small yield of butter through the best of the season; when, if they had come in six or eight weeks later, they would have gone out to grass heavy and strong, and capable of giving the largest quantity and the best quality of butter.

By the first of October your cows will be nearly or quite dry, when if they had dropped their calves in April, you would have found that October was the most profitable month of the season. And further, you will find this month and the next, the best to feed grain to cows.

All cows in a herd should drop their calves as near the same time as possible. If one should drop her calf after you have commenced to pack and put away butter, do not put her milk with the rest for two weeks or more, as it is impossible to keep butter made from it, and it will damage the rest. This is one very common source of an occasional bad tub of butter.—*J. E. Hollister, in Montpelier, Vt., Watchman.*

POTASH FROM WOOL.—One of the most interesting among recent scientific applications is the method of extracting potash from the yolk of wool fleeces, which from this source for some time past has been obtained in great purity. It is computed that if all the fleeces of all the sheep of France, estimated at 47,000,000, were subjected to the new treatment, France, would derive from this source alone all the potash she requires in the arts, enough to make about 12,000 tons of commercial carbonate of potash, convertible into 17 500 tons of saltpetre, which would charge 1,870,000-000 cartridges. So that the inoffensive sheep, the emblem of peace, can be made to supply the chief muniment of war. The obvious lesson from these facts, to the sheep farmer, is to wash his fleeces at home in such a manner that the wash water so rich in potash, may be distributed upon the land as liquid manure.—*American Artizan.*